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September 27, 1971

RAILWAY AGE

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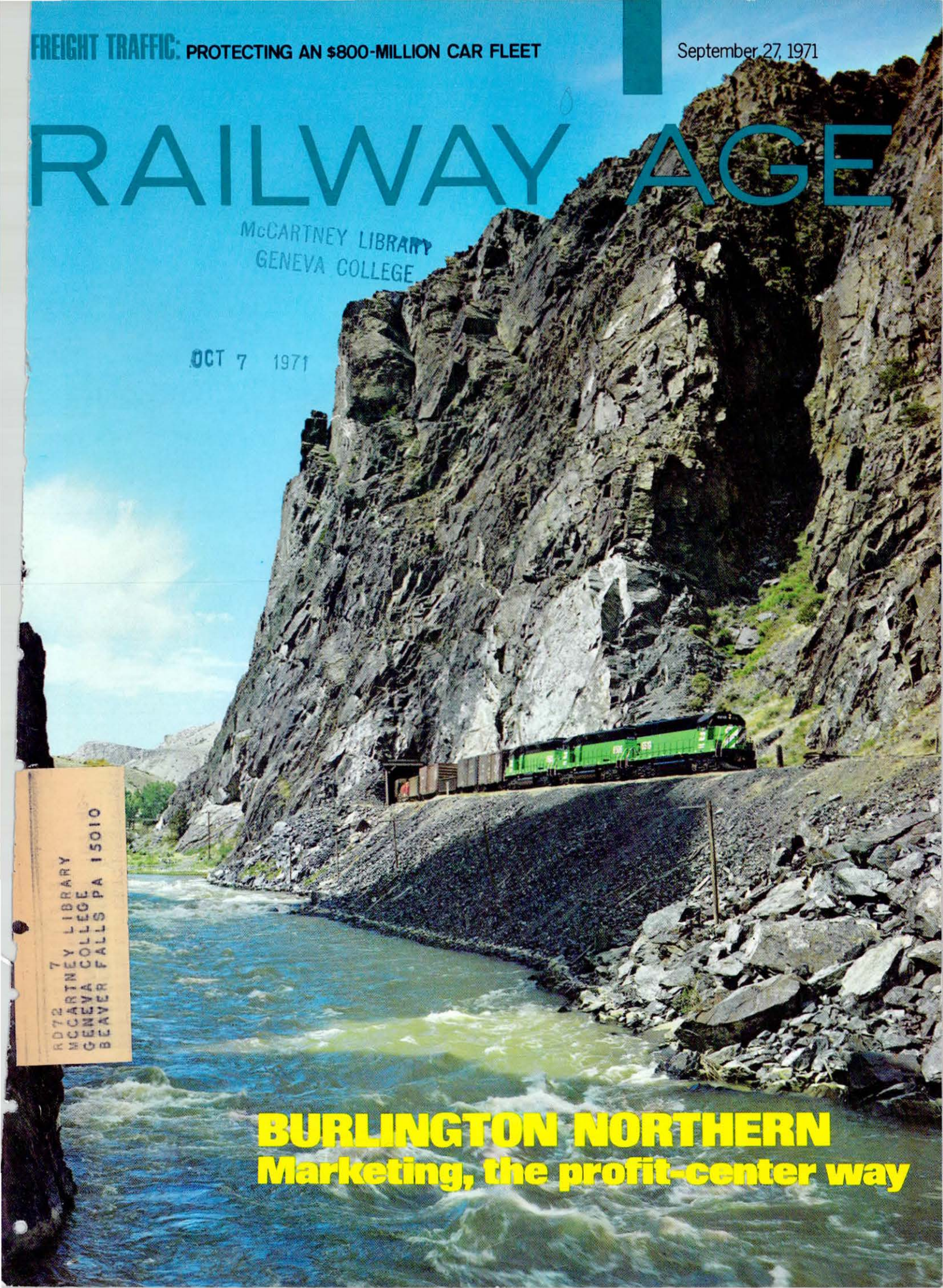

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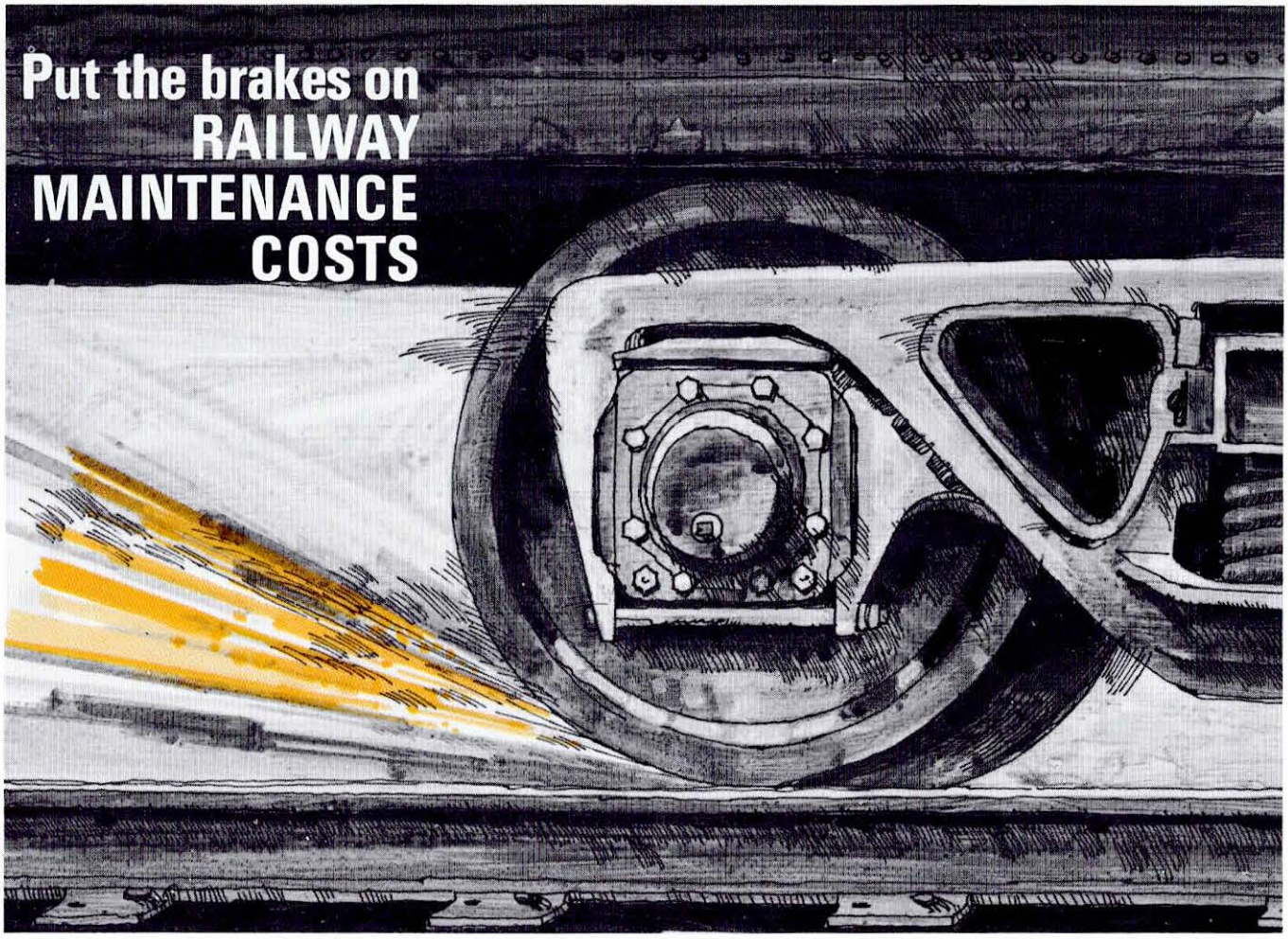
Marketing, the profit-center way



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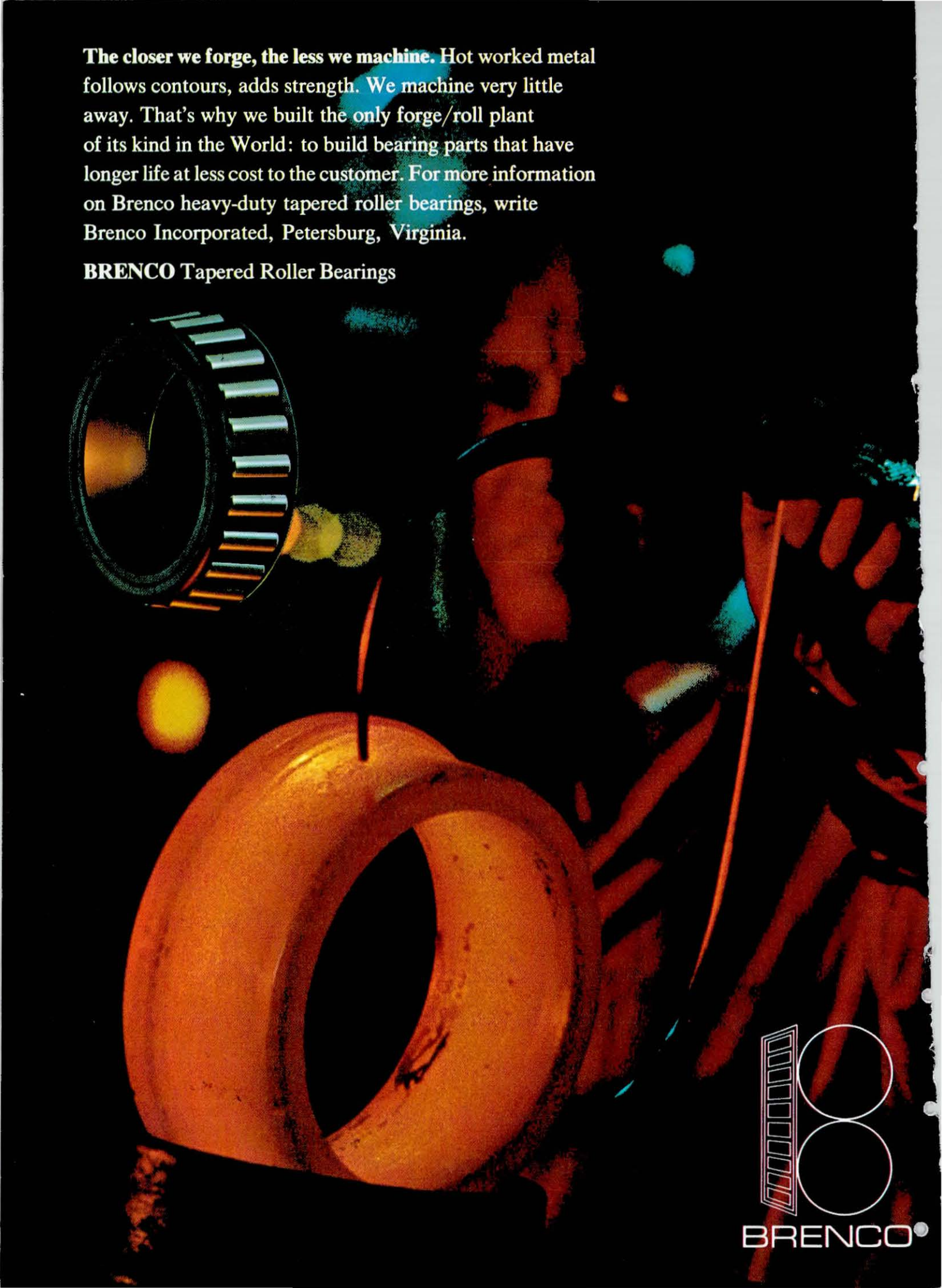

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Inside

LUTHER MILLER

BN: A NIMBLE GIANT

One of the problems of giantism is that giants tend to be clumsy, ill-coordinated creatures. Burlington Northern is, by all odds, gigantic. Its 24,000 miles of line (26,000 if you include Colorado & Southern and Fort Worth & Denver) lace a vast area stretching from the Great Lakes and the Ohio River to California and the Pacific Northwest, from the Canadian border to the Gulf of Mexico.

But the BN has never acted much like a giant. To carry out some very big ideas, BN has tried to encourage what it calls "the entrepreneurial feeling of smallness." Impressive evidence of how BN is going about the task is provided in Senior Editor Gus Welty's report (p. 24) on this carrier's sophisticated "profit-center" approach to marketing.

A BN watcher from M-day, Gus predicted in these pages 18 months ago that this would be a working—and a workable—merger.

His latest visit to St. Paul, allows Gus, gave him no reason to change that assessment.

THE DEPEW STORY, CHAPTER 8

Like all members of the Railway Age staff, Mechanical Editor Fred Houser attends dozens of railroad meetings in the course of a year. The one that he consistently finds extremely valuable (and regularly reports on at greatest length) is also one of the smallest: the annual engineering conference held at DePew, N.Y., by the Transportation Equipment Division of Dresser Industries. Why is this meeting—attended this year by 80 "outsiders" in addition to Dresser staff people—a "must" on the calendars of the industry's leading freight-car figures?

"For one thing," says Fred, "it's a meeting where you can let your hair down and tell it like it is—not as somebody in Washington thinks it ought to be. For another, people come to these sessions really well prepared. It's a very well documented session."

For our mechanical editor's Fred's report on the eighth Dresser conference, see p. 30A.

QUAKER OATS: A GOOD CITIZEN

Some shippers—far too many—assume the role of adversary in their relations with railroads. Others see the relationship as a two-way partnership. A genuine "working partner" of the railroads is Quaker Oats. That is the description of Associate Editor Bob Bartley, who went over to the Quaker Oats headquarters at Chicago's Merchandise Mart the other day and came back with the story that starts on page 28. Read it, and you'll see why our man is ready to nominate this customer as "good citizen of the year in the shipping community."

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we learn all we can about you.

Throughout the year, telephone people from all over the country attend our special school in Cincinnati, Ohio, to take Railroad Specialist Training.

They learn the basics of the railroad business.

The special requirements of your customers.

And how to plan communications for a railroad's immediate and future needs.

Our railroad school is just one of the ways that the American Telephone and Telegraph Company and your local Bell Company help fulfill the communications needs of your business and industry.

Because to talk to you, we must first speak your language.

RAILWAY AGE

September 27, 1971

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COVER

Robert Harr of the Chicago firm of Hedrich-Blessing photographed Burlington Northern's new fast freight (No. 77) running through Wyoming's Wind River Canyon on its 2,600-mile Galveston-Seattle trip.

DEPARTMENTS

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Short and Significant

ICI SEEKS MUFFLER AND BAKING FIRMS

Within the space of a week, Illinois Central Industries announced that it is seeking to acquire the Midas International Corp., which manufactures automobile mufflers, travel trailers, truck campers and mobile homes; and Interstate Brands Corp., a baking firm. Midas would be acquired in an exchange of common stock valued at about $75.2 million. ICI has offered $68.5 million to acquire the common stock of Interstate Brands. In addition to the Illinois Central Railroad, ICI's subsidiaries now include Abex Corp., Waukesha Foundry Co., Chandeysson Electric Co. Pepsi-Cola General Bottlers Inc., Perfect Plus Hosiery Inc., and several real estate companies.

ICC SUSPENDS CNJ ABANDONMENT

ICC on Sept. 14 voted to suspend Jersey Central's proposed abandonment of all its operations in Pennsylvania, thereby snarling Lehigh Valley's bid to take over the 84 miles of track. It appeared the case could go to the U. S. Supreme Court unless CNJ, LV, the Reading, and Lehigh Coal & Navigation Co., which sold the track to Reading in 1963 while retaining rental rights to CNJ, could agree on an out of court settlement. LV, controlled by Penn Central, claims that Reading, part of the B&O/C&O, would shut out long-haul LV traffic if it acquires the track. LC&N said the CNJ is trying to break its contract with it through abandonment.

ONE YARD TO REPLACE 37?

The Department of Transportation, the Department of Housing and Urban Development, and the state of Missouri will jointly fund a $465,000 study aimed at relocating 37 railroad yards encompassing 500 acres in East St. Louis, Ill., and serving 19 railroads. The study's goal is to determine a site for a modern yard that would eliminate present rail delays, and to open up riverfront property for housing and St. Louis's proposed rapid transit system.

AAR HIRES "TRANSPORTATION INSPECTORS"

The Association of American Railroads is hiring 43 "transportation inspectors" to enforce its car service orders. Most are former Car Service Division employees. The AAR's new authority to assess fines against violators of car service orders became effective Sept. 1. Formerly, inspectors were involved principally in checking for car delays and compliance with Car Service Rules 1 and 2—guidelines for directing cars back to their owners. Under revised Car Hire Rule No. 19, they will concentrate on car relocation directives, with authority to issue $50 assessments against individual roads for each violation. Car Relocation Directive No. 1, issued Sept. 1 as the new rule became effective, pertained to the return of 482 plain flat cars to eight owning roads.

AMTRAK INTRODUCES "THE WEST VIRGINIAN"

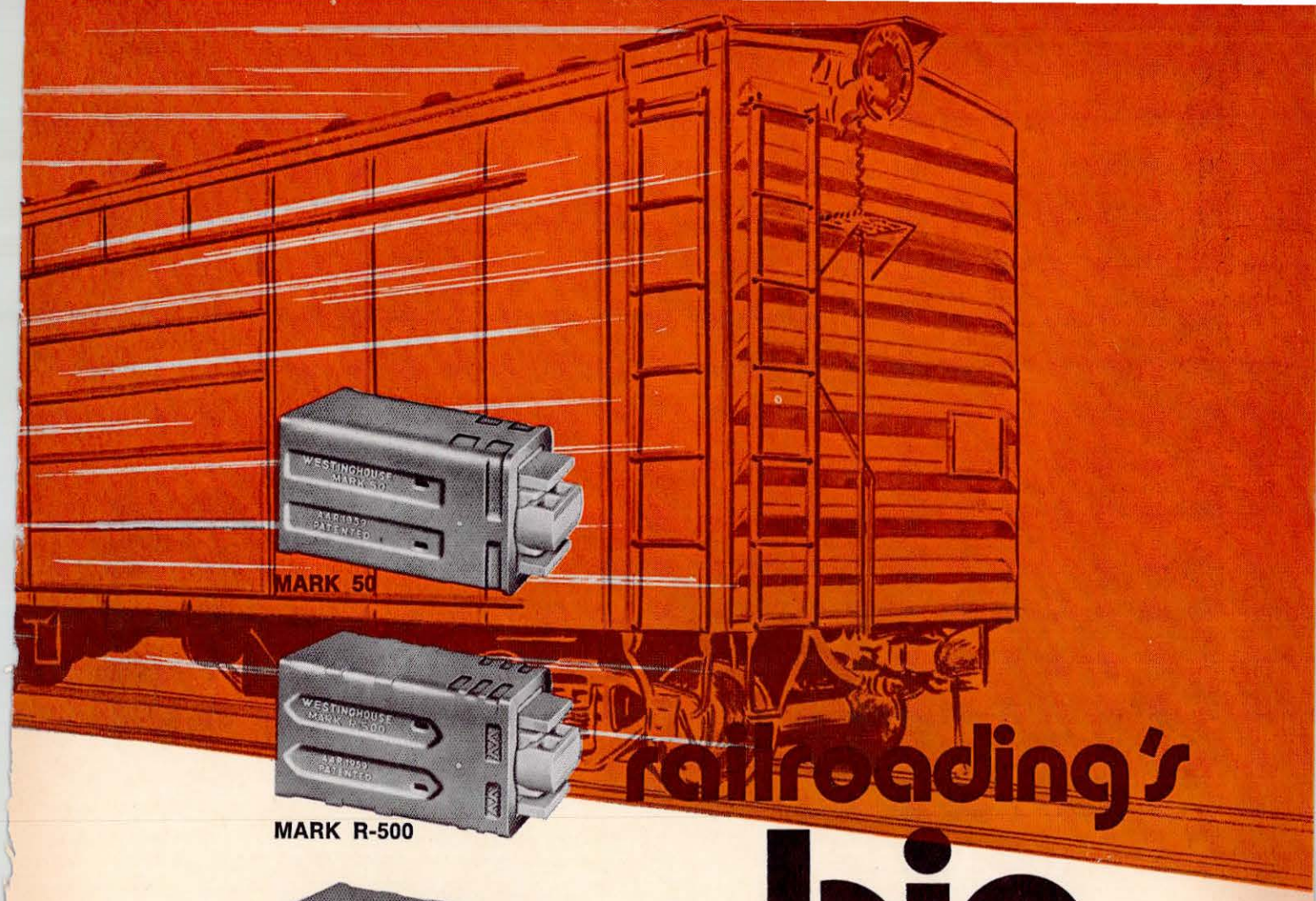
Amtrak's newest train, "The West Virginian," went into experimental daily service between Washington, D. C., and Parkersburg, W.Va., Sept. 7-8. One trip each way per day is scheduled, with stops at Silver Springs, Harpers Ferry, Martinsburg, Cumberland, Keyser, Oakland, and Grafton. Amtrak President Roger Lewis said the train will operate for a 12-month period under that section of the Rail Passenger Service Act of 1970 which permits Amtrak to experiment with intercity service outside the basic system. Some Washingtonians view it as more than a coincidence that Keyser, W. Va., is the home town of Rep. Harley Staggers, chairman of the House Commerce Committee.

TRAILER BUILDERS CRY "FOUL"

Truck trailer manufacturers are hopping mad. They were not included when President Nixon asked Congress to repeal the 7% excise tax on automobiles. At present there is a 10% excise tax on trailers, and their manufacturers have begun pressuring Congress to have it removed also. Sales of trailers, by the way, are depressed. Last year the industry shipped 131,847 units, compared with 171,679 in 1969. First half 1971 was even worse: 53,371 units compared with 74,972 in first half 1970.

BROOKINGS: IF DEREGULATION COMES . . .

Rail and truck freight rates would drop by as much as 20% if surface transportation were freed from ICC regulation, contends a Brookings Institution study released Sept. 13. The study says deregulation could help prevent further rail bankruptcies because rails could then cut costs by rapid and massive abandonment of unprofitable track and shift marginal short-haul freight to truckers. In all, the report says total savings to shippers would range from $3.4 billion to $5.6 billion annually. The report was authored by Thomas Moore of Michigan State University, a former member of the President's Council of Economic Advisors.



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RPI

Circle 5 on coupon page 63

General Electric announces a new computerized warehouse that gives 24-hour shipment of over 20,000 transportation parts

When you need parts, you need them fast. That's why General Electric is now backing up its five Regional Parts Centers with a brand-new automated warehouse.

It's another part of General Electric's ACTION 71 . . . a $10 million parts-supply improvement program to help you get the parts you need and to help cut your maintenance costs.

What makes GE's new central warehouse so special?

For one thing, we've increased our warehouse capacity by 75%. This means we can stock more parts to give you faster delivery. And, it's computerized. If your GE Regional Parts Center happens to be out of the part you need, the Customer Service Specialist will immediately phone our central warehouse. There, a computer will process your order and assist in retrieving the part from inventory. Any one of 24,000 stock items can be on their way to the Regional Parts Centers within a day.

And we've established a team of quality-control specialists who carefully check your order. They make sure you get exactly what you ordered and that it's properly packaged. And we're working on developing new concepts in packaging. Packaging that will not only protect the parts but will also be convenient and time-saving for your maintenance shop personnel.

General Electric is doing a lot to give you the best parts service in the industry.

We're working on a new renewal parts ordering process too. We call it Scheduled Orders. When you've planned your routine maintenance just let us know your schedule. Our computer will keep track of it, and during the year, it'll automatically send you the parts you need.

ACTION 71 . . . to cut your maintenance costs. 121-54

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GENERAL ELECTRIC

Circle 6 on coupon page 63

RAILWAY AGE NEWS

First-half net income up sharply, but still "perilously low"

Railroad operating revenues soared to a record high of $6.5 billion in the first half of 1971, a 10.1% increase over the 1970 period. Ordinary net income rose to $216 million, compared with $91 million in 1970. But the Association of American Railroads, disclosing these figures, pointed out that railroad profits remained "perilously low" and that the recovery in the first six months of the year was more relative than absolute.

For example, said the AAR, the 2.35% rate of return on net investment recorded by railroads during the first half, while representing a substantial improvement over the 1.87% recorded during the first half of 1970, was "still far below the 6% the Interstate Commerce Commission said recently the railroads must attain if they are to provide needed service improvements."

For this year's second quarter, operating revenues added up to $3.4 billion, up 9.4% over the $3.1 billion reported a year earlier. Ordinary income in the second quarter climbed from the 1970 figure of $92.9 million to $179.3 million.

During the first half, 69 railroads qualified for Class I status (i.e., having gross revenues of $5 million or more annually). Of this number, 17 operated in the red—12 in the East, and five in the West.

CLASS I RAILROADS IN THE UNITED STATES

For the First Six Months

	1971 (Millions)	1970 (Millions)
Operating revenues	$6,495.8	$5,900.5
Operating expenses	5,086.0	4,795.0
Tax accruals	602.7	522.8
Rents (net debit)	412.4	365.5
Net railway operating income	394.7	217.2
Rate of return*	2.35%	1.87%
Ordinary income:**		
United States	216.2	91.0
Eastern District	69.4(d)	127.4(d)
Southern District	93.2	73.0
Western District	192.4	145.4

For the Second Quarter

Operating revenues	$3,371.1	$3,082.7
Operating expenses	2,573.1	2,458.6
Tax accruals	314.4	280.2
Rents (net debit)	206.7	185.9
Net railway operating income	276.9	158.0
Ordinary income:**		
United States	179.3	92.9
Eastern District	9.5	33.4(d)
Southern District	47.9	40.4
Western District	121.9	85.9

* For 12 months ended June 30
** Net income before extraordinary and prior period items

Northwest Industries rejects two C&NW-sale conditions

Northwest Industries Inc. has rejected outright two of four financial conditions that an ICC examiner would impose on sale of C&NW to its employees. And Northwest Industries wants the other two conditions modified.

The examiner's report, issued Sept. 2, approved the sale of C&NW by Northwest Industries to an employee corporation called North Western Employees Transportation Corp., or Netco. Northwest Industries owns 99% of C&NW stock. Among several conditions, the report contained these four pertaining to finances:

—Assumption by Netco of all existing debt owed by C&NW, currently about $415 million, which Northwest Industries would guarantee.

—If Netco faltered at any time in the next 10 years, Northwest Industries would be required to lend Netco $25 million on terms set by ICC.

—Northwest Industries must establish a contingency reserve to meet these obligations to Netco.

—ICC would reserve the right to future jurisdiction over Northwest Industries.

Northwest Industries President Ben W. Heineman accepted the $25-million loan and contingency reserve conditions, provided both were modified. The modifications were unspecified.

But Heineman rejected the guarantee by his Northwest Industries of Netco debt and the right of ICC to future jurisdiction over Northwest Industries. Heineman said these were "unacceptable for legal and other reasons."

The proposed report by ICC Examiner Edward J. Reidy (RA, Sept. 13, p. 12) is subject to final action by the entire Commission. The examiner's report was made public just 11 months after Netco, which is headed by Larry S. Provo, announced its agreement for purchase of the transportation assets of C&NW, of which Provo is also president.

The ACI Scanner

It is a very special pleasure to announce our forthcoming expansion into new, larger executive and service headquarters at 520 Armory Drive in South Holland, (Chicago) Illinois. Moving day will be October 1, 1971.

Current installation contracts allow this planned growth to be realized ahead of schedule. However, the important aspect is that it's been made possible by customer recognition and adoption of ACIS technology.

I urge you to come and see our new headquarters. Located two blocks from Interstate 294, it is accessible by major arteries. We are 40 minutes or less from Midway, O'Hare and Meigs Field. This is convenient for customers, our people and also air delivery of ACIS equipment. After long study and discussions, we have concluded that the South Holland address will be ideal for generating optimum services to our growing roster of customers. We are certain, for example, that its advantages can dramatically reduce installation lead time.

Here you'll find an expanded national sales force; field engineering; laboratory and research; stores of Scanners; and training center.

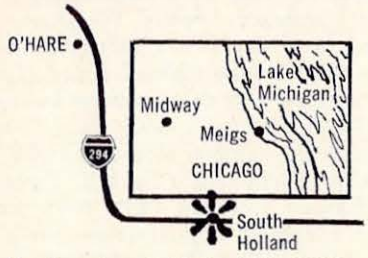
Many on-line ACI installations are nearby, and if you're contemplating ACI economies, you can take advantage of this unique opportunity to study ACIS equipment in action.

The new headquarters is our response to your growing acceptance, and is one more example of our willingness to develop realistic answers to your ACI requirements!

W. H. Thompson

W. H. Thompson
President

ACI Systems Corp.



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Circle 7 on coupon page 64

DOT unveils $460-million plan for Northeas

DOT Secretary John A. Volpe called it "the most comprehensive analytical effort ever undertaken in the field of transportation." Like most transport proposals, the price tag came high—$1 billion—but unlike most previous transportation schemes, rails this time took back seat to no one.

The event was the issue by DOT of the three-volume final report of the Northeast Corridor Transportation Project, which has been five years in the writing. A preliminary report was issued in April, 1970, but contained no policy recommendations. Secretary Volpe, former governor of Massachusetts, clearly relished the task of expounding the final report's policy findings at a Sept. 15 news conference.

He proposed that $460 million, a sum shared between the Federal government and the 12 states of the region, be spent to develop high-speed rail passenger service in the 800-mile corridor between Manchester, N. H., and Richmond, Va.

And he indicated DOT's belief that high-speed rail should have precedence over air or highway travel in the region during the 1970's and maybe during the 1980's.

He pointed out that the Northeast Corridor was deserving of special attention because it contained 44 million people, by far the heaviest population density in the nation. Passenger travel in the region rose an average of 15% every year, he noted.

Secretary Volpe said three years would be needed to improve roadbed, eliminate grade-crossings, upgrade terminals, and purchase $100 million of new cars under the $460-million program. One year would be needed to obtain Congress's approval and appropriations of funds, he added.

Volpe said President Nixon had not yet given formal approval to the program. Before any budgetary request is made, he said, DOT will consult with the states to determine what share of the cost they can assume.

(DOT separately is considering a more ambitious plan to upgrade rail passenger and freight service between Boston and Miami. The plan reportedly would offer loans or loan guarantees of $1.5 billion to rails to improve roadbed and track. It might be recommended to coincide with the bicentennial of the American Revolution. DOT also has under way a study of national freight transportation needs. It will be ready in 1972.)

For the 1970's at least, said Mr. Volpe, "the need is to make more effective use of existing transportation systems' capacity rather than introducing new technology systems that will require large and costly new facilities in densely populated areas."

Accordingly, he recommended this high-speed rail development:

—Roadbed improvements: $100 million for the New York-to-Washington route, and $190 million for the New York-to-Boston route.

—Terminal upgrading, $70 million.

—New equipment, $100 million (probably through a loan guarantee to Amtrak, DOT officials said).

The aim of these proposals was to insure travel times of two hours between New York and Washington nonstop (two and a half hours with intermediate stops) and two and three-quarter hours New York to Boston non-stop (three hours with intermediate stops), both with frequent enough stops to make reservations unnecessary.

The DOT report said departures as often as every half-hour would attract heavy patronage and be economically self-sustaining. Secretary Volpe noted that Metroliner ridership for July was up 16% over the 1970 figure. He said Metroliner trains were now averaging a 68% load factor and are breaking even financially.

$290 million would go for roadbed, $100 million for cars

In addition, he made these highway recommendations for the 1970's:

—Construction of what in effect would be a second north-south highway, parallel to Interstate 95, consisting of short sections of freeway, bypasses, and interchanges.

—Installation of a system to give motorists advance warning of upcoming traffic and weather conditions.

The price tag on these, said Secretary Volpe, was $190 million.

For the 1980's and beyond, the report recommended and Mr. Volpe endorsed research leading to "major investment decisions" in 1976. The research program alone would cost $500 million, the report estimated, and would seek:

—A possible route for a TACV system, running on fixed guideway at speeds up to 300 mph, or more advanced magnetic suspension vehicles.

—Development of short take-off and landing (STOL))and vertical take-off and landing (VTOL) aircraft, which could use very small airports.

Corridor

—Development of automated highways, where computers would take over driving the car.

Significantly, Secretary Volpe said that while DOT will definitely continue and expand its research on new technology, the high-speed rail improvement might with further improvements be sufficient for the 1980's as well.

The final Northeast Corridor report was prepared by a team led by Project Director Myron Miller of DOT's Office of Systems Analysis. Private consultants on the project were Mitre Corp., Peat, Marwick, Mitchell & Co., and Research Management Corp.

The import was obvious that the $460-million high-speed rail program would mostly help Amtrak, the new National Railroad Passenger Corp. begun this May 1. Amtrak viewed its potential bonanza carefully. "We run a national rail passenger system," said one spokesman, "though naturally the Northeast Corridor is the heart of it."

Amtrak picks a 1,200-car fleet

Amtrak on Sept. 8 said it would spend $16.8 million to purchase the best 1,200 passenger cars in the U.S. from their current owners and add 12 new Budd Co.-built high-speed cars to its Metroliner fleet.

Amtrak President Roger Lewis said the latter, built in the late 1960s but never placed in service, would be leased for two years with an option to buy.

The $16.8 million will be divided among nine different railroads. Amtrak also is dickering with PC for some additional equipment.

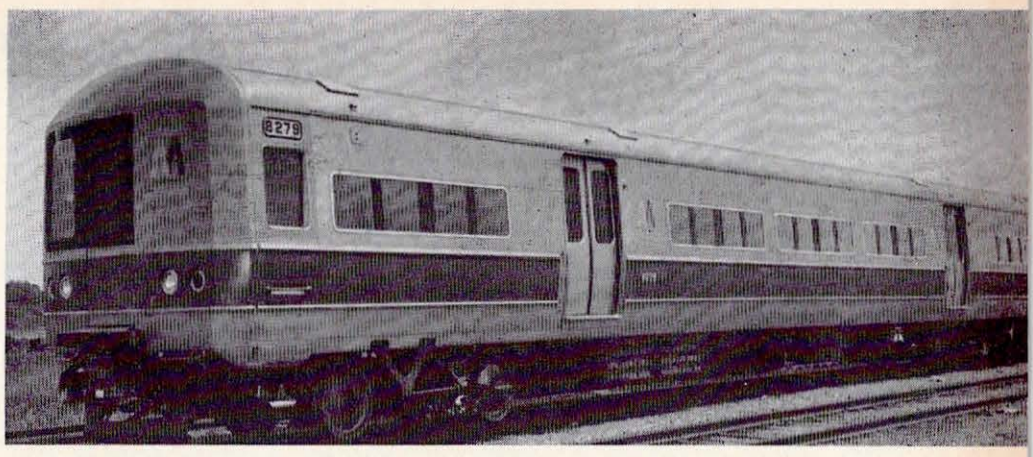
The 1,200 cars were handpicked from 3,000 cars in service on 24 roads when Amtrak went into operation on May 1 of this year. The majority will come from Western roads.

From Santa Fe, Amtrak will buy 447 cars, including 73 coaches, diners, and lounges with an average life of ten years.

The remaining 753 cars (all types) will come from these roads: SCL, 276; BN, 196; UP, 124; SP, 80; L&N, 25; RF&P, 19; B&O/C&O, 17 and N&W, 16.

A majority of the cars, 741, have stainless-steel construction; 331 more have stainless-steel sheathing.

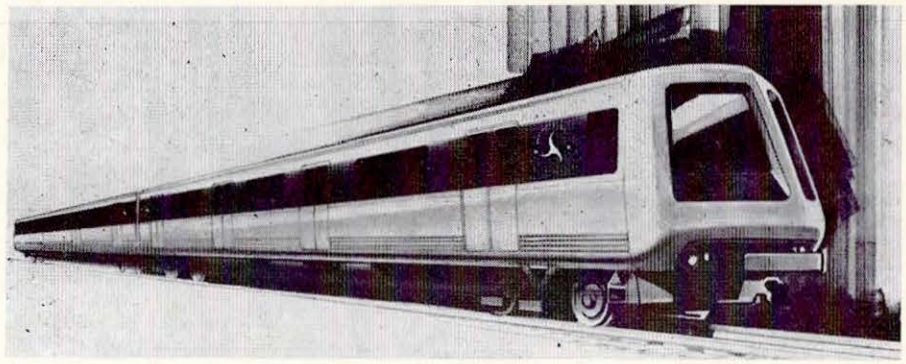
"With a variety of better quality passenger cars in the Amtrak fleet, we can redesign train consists and upgrade . . . services on virtually every route," said Lewis.



GE delivers first commuter cars

The first commuter cars supplied by General Electric have gone into service on Penn Central's Harlem Division out of New York City. They are the initial deliveries of an order for 80 air-conditioned, high-speed coaches placed by the Metropolitan Transportation Authority last year.

The new cars are similar to 620 GE-powered cars built for MTA and the Long Island Railroad by Budd over the past few years. For the 80 cars, Budd is serving as GE's subcontractor. Their purchase is financed by the Port of New York Authority under the New York State commuter car program.



St. Louis to build UMTA/Boeing SOACs

St. Louis Car Division of General Steel Industries has been selected by Boeing's Vertol Division to build a pair of SOACs (State-of-the-Art Cars) as part of UMTA's Urban Rapid Rail Vehicle and Systems Program. Boeing serves as UMTA's systems manager for this program and is responsible "for the overall planning and integration for the accomplishment of program goals."

The SOAC project, the first stage of a more extensive program, is to "enhance the attractiveness of rail rapid transit to the urban traveler by demonstrating the latest technology in car-building." To be demonstrated will be suspensions, controls, and passenger compartment amenities.

The two SOACs are to be completed and delivered by September 1972. They will be tested at DOT's High Speed Ground Test Center at Pueblo, Colo., and then operated on rapid transit lines in Boston, Chicago, Cleveland, New York and Philadelphia. Administrator Carlos C. Villarreal of UMTA, says that "the rapid transit industry may expect to benefit from a combination of the system management capabilities of an aerospace company, and the manufacturing and component experience of an established carbuilder."

Sundberg-Ferar, industrial designers, will assist St. Louis Car on the interior and exterior styling. The St. Louis SOAC design will incorporate a new solid-state, electronic (chopper) motor control system which is to produce smoother acceleration and cut costs.

After delivery of the SOACs, Boeing's project is to include Advanced Concept Train vehicle and Subsystems (ACT-1) research and development which will develop and test the "next generation" of rail rapid transit vehicles and subsystems."

Why Penn Central wants reorganization-plan extension

Penn Central on Sept. 17 asked the Federal District Court in Philadelphia for a six-month delay in filing a formal reorganization plan, the maximum permitted under Section 77 of the Bankruptcy Act. The plan had been due Sept. 22.

In seeking the extension, the trustees told the court:

"The next six months will be critical in solidifying the trustees' conclusions on the viability of the railroad. To this point, the trustees have been unable to report reliable projections on anticipated levels of traffic, and therefore revenues. This resulted from general economic conditions, the time needed to develop acceptable quality in rail service, and yet untested assumptions on the railroad's competitive ability in the transportation market. The extension will permit a better, if not complete, factual base to be developed."

The trustees added: "On the expense side, an additional six months will be required to ascertain whether a rational labor pattern can be established on the railroad. By virtue of arrangements with Amtrak and local authorities, substantial progress has been made in alleviating the burden of passenger deficits, although that problem is by no means resolved. An active abandonment program has been launched to reduce excessive and costly capacity.

"Until more reliable data can be gathered on future levels of revenue and expense, and until valuations are completed, the drafting of a plan of reorganization would be an academic exercise."

The trustees pointed out that the Penn Central bankruptcy differs from previous bankruptcies. In other cases, they said, the question has been "how, not whether," a railroad could be reorganized. But this case involves "primarily the survival of the operation rather than a re-ordering of its capital structure," they noted.

The trustees reported that there was an estimated cash drain of about $69.3 million in the first quarter of 1971, which was met by drawing down $65 million from the $100-million loan guaranteed by the Federal government under the Emergency Rail Services Act of 1970. An additional $10 million was drawn down in April. "It does not now appear to be necessary to draw down the remaining $25 million of trustees' certificates until December," they said.

Present indications are that internally generated cash from operations may well fail to meet non-deferrable operating expenses in the first quarter of 1972 by $40-to-$50 million, said the trustees. They called this a matter "of critical concern."

The trustees emphasized "the necessity for a major ultimate reduction in labor cost," asserting: "It is clear to all concerned that developments in this area more than in any other during the next few months will govern the course of the reorganization and from the basis for the trustees' ultimate recommendations."

(In a Sept. 14 address before the Delaware Valley Regional Transportation Conference, PC President William H. Moore said the carrier can return to financial viability only if excess-crew laws are repealed and outdated work rules eliminated. He said that "throughout our railroad we have more than 8,800 excess train crew members (firemen and brakemen) costing us about $120 million annually. By 1973 this will increase to more than $150 million.")

As for traffic and revenue performance, the trustees told the court: "The new management is moving on every available front to reverse the revenue trends which were responsible, as a most important factor, in bringing about bankruptcy. While there are preliminary indications of progress, particularly in service improvements to shippers, it is much too early to say whether such a reversal can in effect be obtained and, once obtained, be maintained in the future. To do this requires an approach to railroading that has not been widely accepted in the industry. It is the purpose of the new management to determine what has to be done to establish a maximum competitive position and to move in that direction. After six more months, with the work already under way, it should be easier to judge whether a plan of reorganization based on a maximum competitive position is feasible."

In Chicago, Trustee Jervis Langdon, Jr., addressing a Railway Systems and Management Association meeting, commented on the options open to Penn Central.

One possibility, he said, would be government subsidy, perhaps in the form of a contract between the Department of Transportation and PC providing for essential freight service.

Another possibility, he said, would be government purchase of right-of-way for leaseback to the railroad. "We would have to be very careful in any such plan to avoid a contract which carried a note of finality," said Langdon.

$50,000 limit sought on most PC pensions

Trustees of the Penn Central have petitioned their Federal District Court overseer to put a permanent ceiling of $50,000 on virtually all pensions paid to ex-officers of the road and to use most of an $8.7-million special executive compensation plan set up by PC's former management for current rail operating expenses.

Pensioned officers of the road have been receiving the proposed $50,000 top ever since Judge John P. Fullam established that temporary ceiling a year ago, in one of his first acts in the case.

Under the trustees' new proposal, only two retired officers would receive pensions of more than $50,000 a year: Allen J. Greenough ($66,478), last president of the Pennsylvania Railroad before it merged in 1968 with the New York Central, and James M. Symes ($52,776.12) a former Pennsylvania board chairman.

The trustees' new plan would exclude David C. Bevan, former chief financial officer of PC prior to its June, 1970 bankruptcy, who normally would have received a pension of about $80,000. The trustees have filed suit against him alleging use of inside information for his own financial benefit.

Stuart T. Saunders, pre-bankruptcy PC chairman, would receive the $50,000 ceiling, though normally he would be entitled to a pension of about $100,000, plus additional benefits from the special executive compensation fund.

PC trustees told the court that 74 of 121 former officers eligible to participate in the executive compensation plan have approved the new proposal to dispose of the $8.7-million fund. The new proposal was rejected by 38 participants including Saunders and Alfred Perlman. Nine former officers have not signified their wishes.

As of last Dec. 31, there was about $8.7 million in the special compensation fund. Invested in non-PC stocks and bonds, it fluctuates in value. The trustees want to pay out about $2.7 million to the participants, enabling them to collect benefits up to $50,000. The remaining $6 million would revert to the cash-starved railroad.

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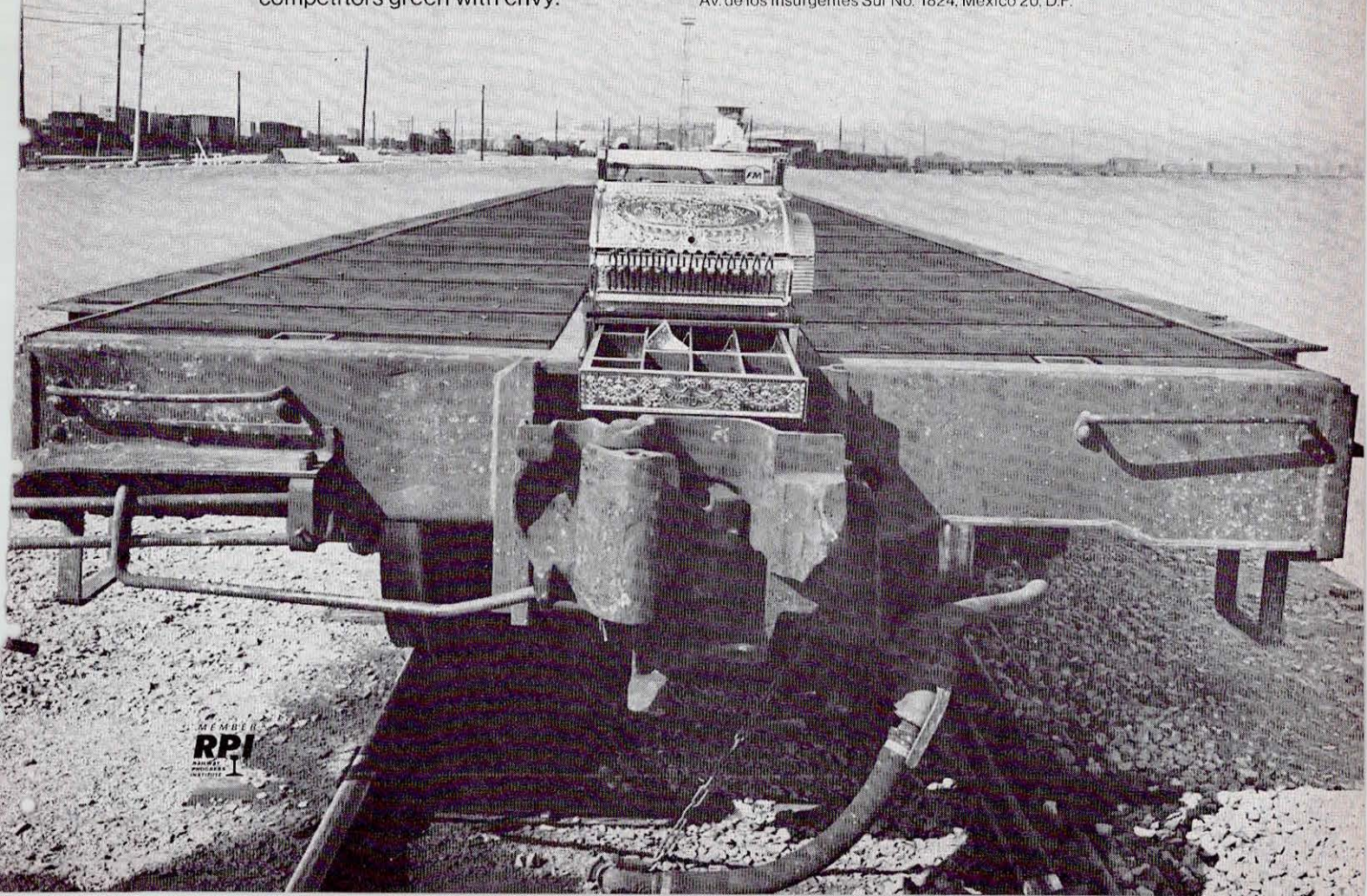

Lines on Labor

GUS WELTY

SUBJECT: THE FACTS OF LIFE

Many, many theories have been advanced as experts and other observers try to explain why railroads have so much trouble updating outmoded labor contracts. But it's just possible that the real root cause of the problem could be summed up rather simply: Too few people have an accurate understanding of what makes a railroad tick *as a business enterprise*. Or, to put it another way: Too many people have a distorted and disjointed understanding of the system under which railroads (and other industries as well) must function. Perhaps this is to be expected in a society where economists sometimes function as politicians and vice versa. But a good number of businessmen think it's high time the record was set straight—and you can number Santa Fe President John S. Reed among that "good number."

PROFIT: WHY IS IT REGARDED AS A DIRTY WORD?

Sometimes it seems that every new day brings a new challenge to the profit system. This, in itself, isn't bad. What *is* bad is the fact that too often these challenges are met defensively or downright ineffectively—which, as John Reed says, "only serves to reinforce the views of those who feel there is something morally or ethically wrong in pursuing a profit" But, what is "profit"? By Reed's definition, profit "is the catalyst, the spark plug, which promotes economic growth and prosperity."

Any business, Santa Fe's president points out, has a continuing need for investment capital for plant and equipment improvements and replacements and for development of new products and services. There are only four basic sources of this capital—additional contributions from the owners, borrowing, depreciation funds, and retained earnings. Of these four, Reed says, "retained earnings, or 'profit,' is probably the most important single source." And "if a firm does not make profits which can be reinvested in the future of the enterprise, the employees as well as the owners of the firm will suffer from the firm's failure to hold its own or expand."

PRODUCTIVITY AND PROFITABILITY: THEY GO TOGETHER

Reed sees "an urgent need for impressing our people that restrictions on productivity and make-work provisions are illusory short-term types of false security—and that the only long-range security for railroaders is to improve our total productivity and our total profitability. When that great day comes—and there are signs in our recent labor settlements that we may finally be trending that way—then, wonder of wonders, the whole railway problem could start to unravel."

It could well be that the biggest single challenge to the profit system stems from the business community's failure to explain it. And, while Santa Fe has done a good continuing job in economic education at the supervisory level, in a broader sense "our people have little understanding of the economic factors underlying the very existence of railroads and, more importantly, have never really been persuaded that the survival of any enterprise depends upon its consistent ability to return a profit." Rhetoric of bargaining aside, both management and labor should admit one thing: Reed's right.

Hartke: "We still need a policy..."

The Department of Transportation on Sept. 8 sent Congress its long-awaited Statement on National Transportation Policy. The document was in part platitude, in part 1972 campaign literature, in part serious discussion; and it was received—after the first eager reading—with yawns. Nevertheless, it contained a very nice bouquet for rails.

"It is perhaps overly general," admitted the statement's author, DOT Assistant Secretary Charles D. Baker, who added that the paper was designed as a "jumping off point for more specific policy statements and legislation."

Senate Surface Transportation Subcommittee Chairman Vance Hartke was more critical:

"We can conclude [from it] that we can only expect more talk about the need to take action. In short, we still do not have a much-needed national transportation policy," he charged.

Sen. Hartke pledged that hearings later this fall on the proposed Surface Transportation Act of 1971, the joint rail, trucker, water carrier proposals for transportation reform (RA, Sept. 13, p. 11), would develop "complete analysis of alternative solutions.

The finished product contained only three legislative recommendations: enactment of a transportation revenue sharing program (whose proposed effective date was postponed for one year by the White House the day after the policy statement was released); reorganization of the executive branch into "super" departments, which would merge most of DOT into a new Department of Economic Affairs, with some functions, like UMTA, going to a proposed Department of Community Development; and a reexamination of Federal regulation.

Of these three recommendations, two —revenue sharing and executive reorganization—have already been sent to Congress. The third recommendation —a modest deregulatory program—has not yet been sent to the Hill in concrete form, despite an avowal by DOT Secretary John A. Volpe last month before the UTU convention that regulatory reform (and a rail aid package) would be "on Congress' doorstep the day they return from recess."

The "bouquet" for rails came in the form of a DOT discussion of intercity freight which suggested that if artificial barriers to rail competition were removed, there would be a shift of traffic from highway to rail with resulting savings of $1.5 billion in highway costs, and savings of between $1 billion and $3 billion to consumers. (*See p. 60*).

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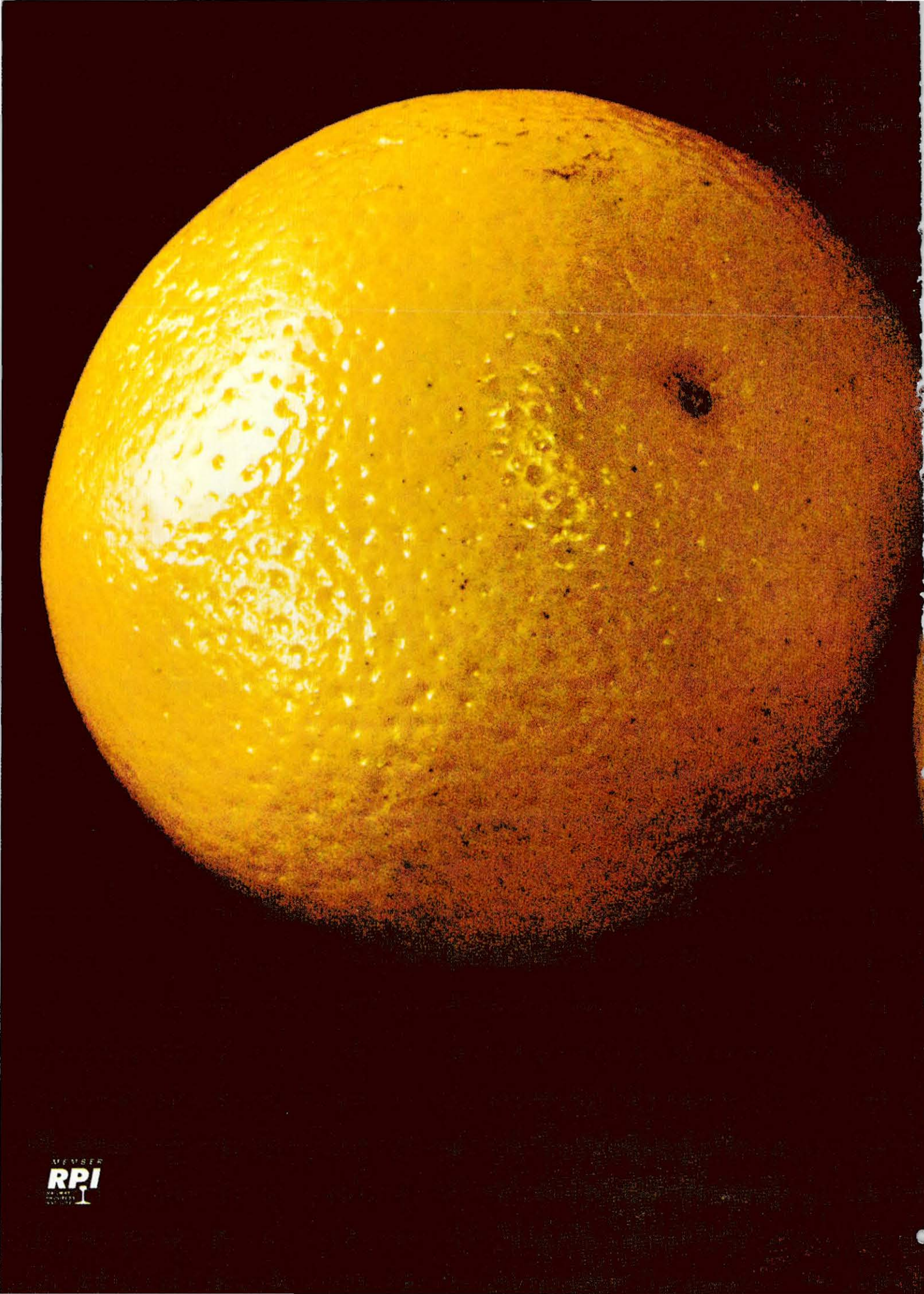

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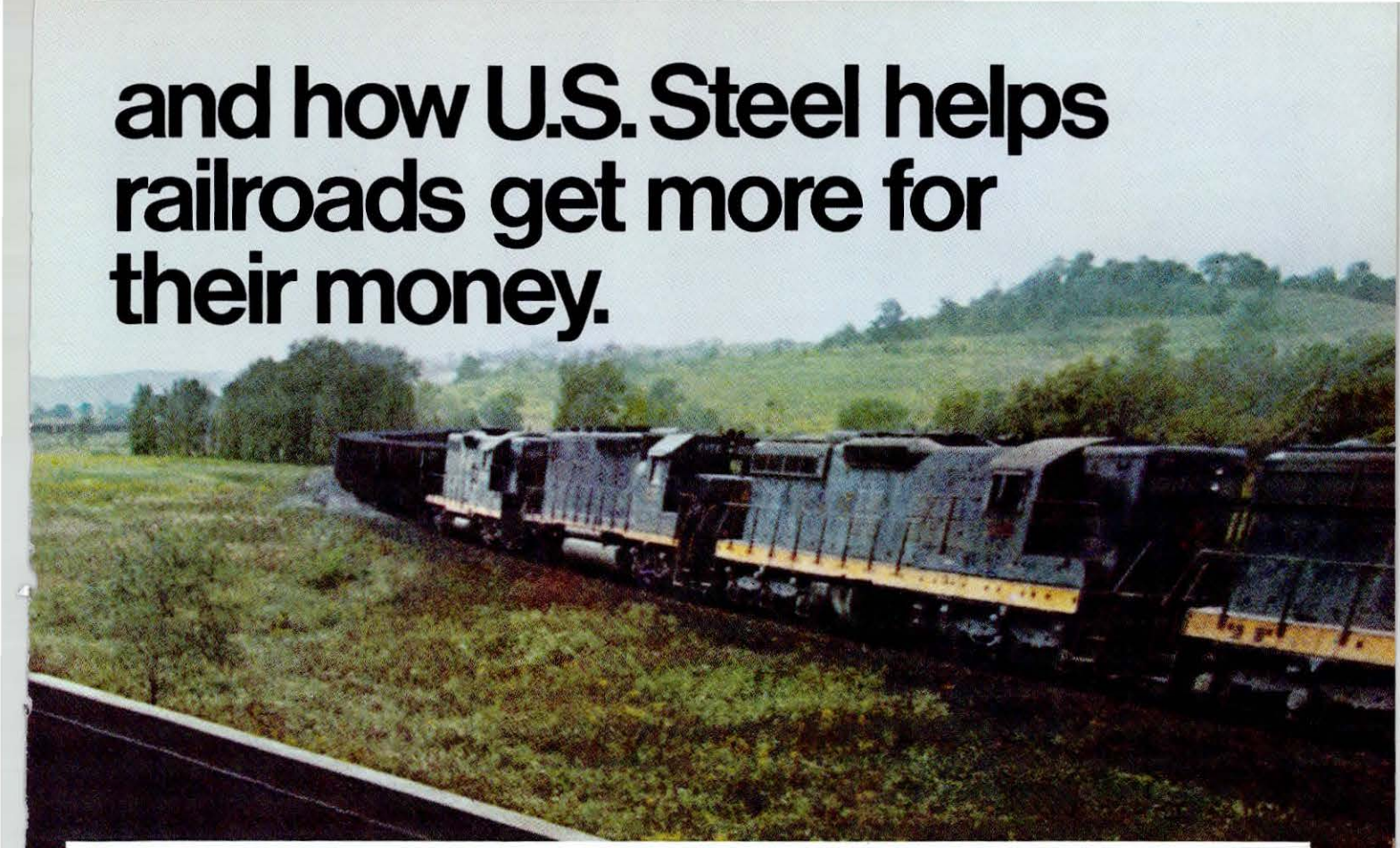

These gondola cars are part of a 202-car fleet with USS COR-TEN A Steel bodies that went into service four years ago.

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Bare bridge covers up. Weather, not paint, has been helping this Rio Grande bridge cover itself up ever since the Atchison, Topeka and Santa Fe built it: it's of the high-strength, low-alloy steel that "paints" itself, USS COR-TEN B Steel.

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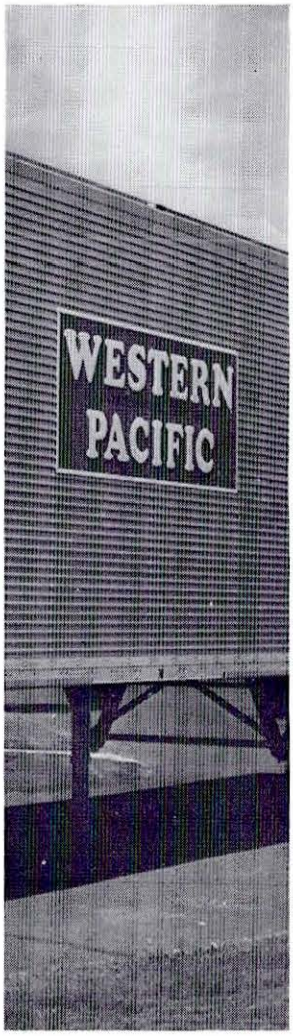

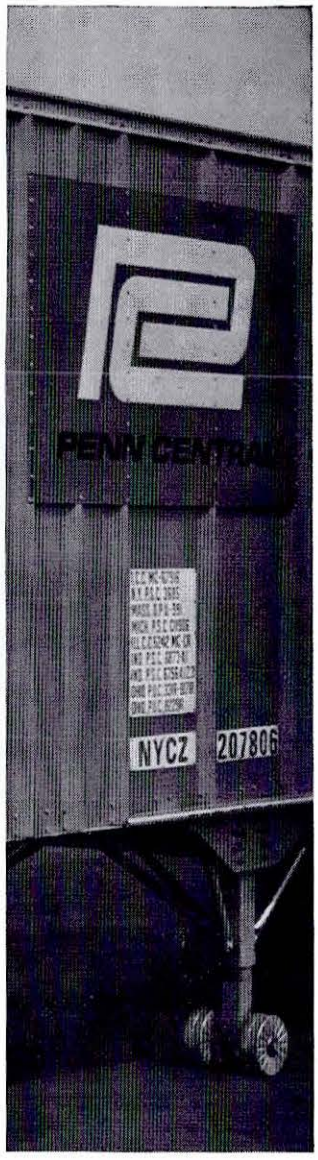

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ATA chief urges shippers support Transport Act

American Trucking Associations President William A. Bresnahan, hitting the campaign trail for rails as well as truckers, told a meeting of leading shippers Sept. 21 that they could back at least seven of 10 provisions of the proposed Surface Transportation Act of 1971 (S. 2362; H.R. 10146), the joint legislative program endorsed by rails and regulated truck and water carriers (RA, Sept. 13, p. 11).

Addressing the User Panel of the TAA in New York, Bresnahan said provisions of the Act "acceptable, in general" to shippers include those pertaining to removal of discriminatory state taxation; grade crossing protection; creation of an RFC-like agency to aid carriers; broadening of equipment amortization rules; line-abandonment procedures; reinstatement of the tax credit; and transmittal of the ICC's budget directly to Congress.

One of the proposals "with which you are not happy," Bresnahan told the shippers, "calls for the publication of the rates—not economic regulation, just publication of the rates—on dry bulk commodities transported by water."

He said regulated carriers who are competitive in the dry bulk field "believe it is only reasonable that they have some knowledge of that with which they are trying to compete."

With respect to the provision applying regulation to the now-exempt for-hire truck transportation of livestock and other agricultural products, he said it "would apply to these few . . . products the same regulation that applies to them when they move by railroad, and the same regulation that applies to most other products when moved by any type of for-hire carrier."

He said the net effect would be to give rails a fair shake and for-hire truck carriers a reasonable chance of achieving some degree of financial stability, "something they now seriously lack and desire."

The third provision giving shippers "difficulty," continued Bresnahan, establishes expedited ICC handling of carrier rate adjustments during "periods of obvious and significant increase in carrier cost" and consideration in rate cases of current replacement and capital cost.

"Perhaps we will be able to do no more than agree to disagree," declared the truck leader. "But it could well be that further discussion—in depth and in shirt sleeves—involving three or four spokesmen for each of the interested TAA panels might be useful."

Watching Washington

REID BEDDOW

RAIL BRITANNIA II

Richard Marsh, who at age 43 was sworn in as chairman of British Rail Sept. 13, will soon tell the British Government that his nationalized system must receive much more state help or cut its track mileage down to 5,000 or 7,000 miles, about half of the present system. Mr. Marsh's views may not be what Sen. Vance Hartke (D.-Ind.), chairman of the Senate Surface Transportation Subcommittee, wants to hear when BR representatives brief the Senate Commerce Committee later this fall on BR passenger service and technology. It has never been so stated, but the implication was that Senator Hartke would use the briefing to contrast BR's "highly efficient," nationalized passenger service with the private (well, quasi-private) one of the U.S. There are, of course, freight implications and contrasts, too.

In point of fact, Mr. Marsh has developed new views about what aid the British government should give BR. They indicate that the price tag of running a nationalized U.S. rail system, passenger and freight, could be very high indeed.

Ironically, Mr. Marsh, as Minister of Transport in the Labor Government of Prime Minister Harold Wilson, was responsible for Britain's 1968 Transport Act, whose aim, with the help of a capital write-off and state grants for unprofitable passenger service, was to place BR on a pay-its-own-way basis.

Now, Mr. Marsh, armed with appropriate studies, is saying that BR cannot pay its own way and still make capital investment, particularly in freight systems, without cutbacks in BR's rail network, including sweeping abandonments in Scotland, Wales, northern England, and what the English call the West Country—Cornwall, Devon and Somerset.

Mr. Marsh says that BR has an "investment gap" of about $100 million a year between the $200 million it can raise from revenue and the $300 million it needs for capital improvements.

The only alternative to massive abandonments, he says, are outright state grants for capital investment. He feels the state should contribute on grounds of "total social and economic benefit."

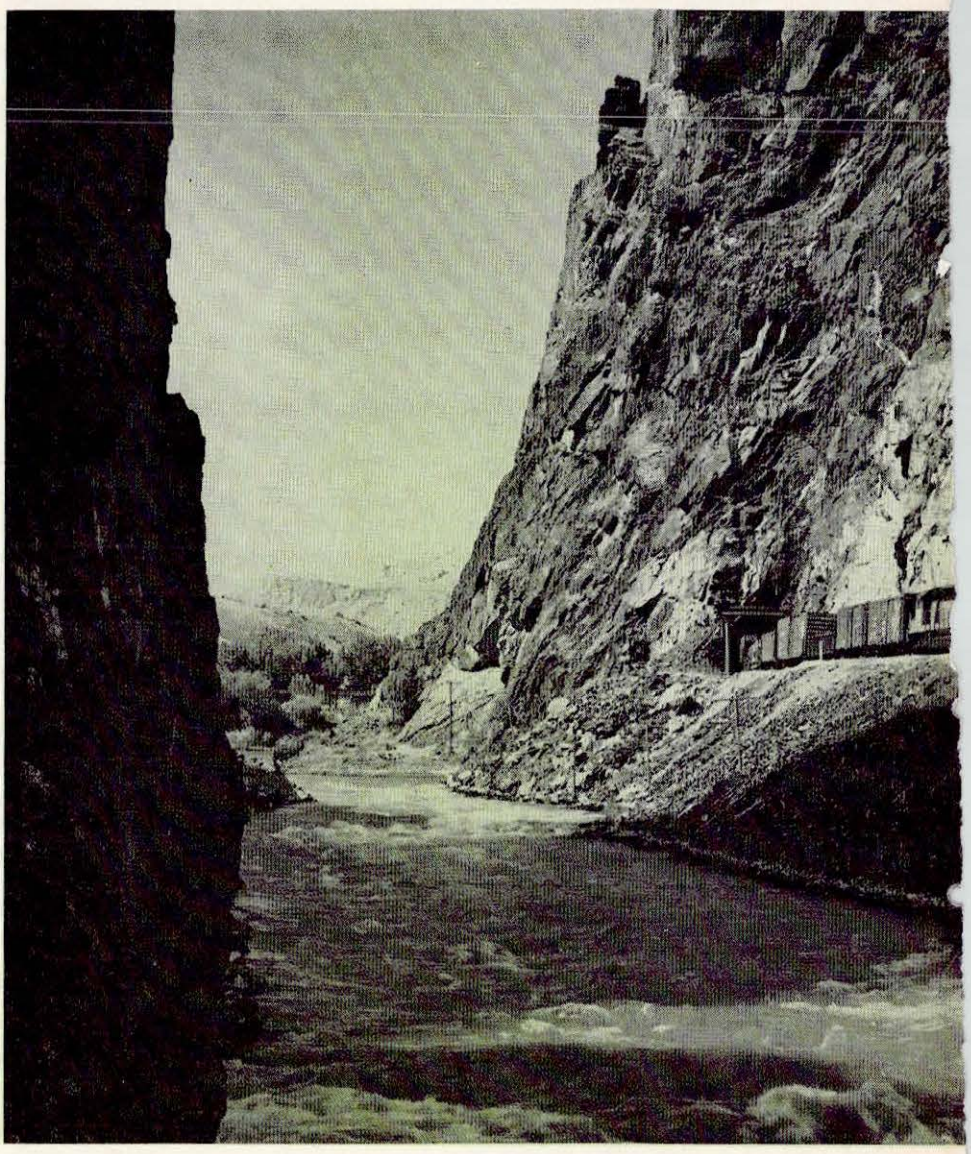
REVENUE SHARING: THE PLAN THAT WAS ISN'T

Forget, at least until after the 1972 elections, that you ever heard about President Nixon's Revenue Sharing Program for Transportation (RA, Feb. 8, p. 15). Announced with appropriate fanfare in the President's 1972 budget message, the program proposed creation of a $2.566-billion fund for states and localities to be used for any transportation purpose with only one string attached—$525 million was restricted to urban mass transit grants. President Nixon has now postponed the effective date from Jan. 1, 1972, to Jan. 1, 1973, as part of his new economic plan's reduction of Federal spending. The postponement confirms what everyone always knew: a transportation revenue sharing plan, in a Presidential election-year with Congress besieged by demands for transportation funding of one kind or another, had about as much chance as the proverbial snowball.

BURLINGTON NORTHERN

Marketing, the profit-center

By GUS WEI TY, Senior Editor



Burlington Northern is writing a new definition for the term "profit center"—making the concept work for market development, in a service industry, on a commodity basis.

What this means, simply, is that BN (1) has brought together *all* the elements needed for rational decision-making on a market-development project, and (2) has designed a market-development structure which "encourages the entrepreneurial feeling of smallness" within the vast enterprise that BN has become.

The goals are the predictable ones—to expand BN's market share of currently profitable business, to improve the profitability of marginal traffic, and to expand into new and profitable business markets. But the approach is just a bit different—because within each of BN's five commodity centers there is full-range capability and responsibility for cost analysis, price analysis, customer analysis and industry analysis. Working in support of these profit centers is a marketing-services staff group which handles market research, marketing measurement and business forecasting of a scope which may be beyond the capability of the individual centers.

● **"Imagination and innovation."** When the market development department was set up last May, Vice President-Marketing M. M. Scanlan expressed the hope that the commodity centers "will perform with imagination and innovation, for the benefit of BN and its customers." And that's precisely the route that Vice President-Market Development W. L. Smith and his people have been taking in the few short months since their group came into being. It's still too early to measure the impact on profitability—but Smith is convinced that (1) it will be substantial, and that (2) out of market-development work will come a kind of planning and forecasting capability that can be widely used in BN, beyond the boundaries of the marketing function itself.

The evolution of the profit-center concept began last year at the direction of Chairman L. W. Menk with a study, headed up by P. F. Cruikshank, then assistant vice president-marketing planning and now president of Fort Worth & Denver. Study results looked promising, and BN's next decision was to create the coal and ore division in November 1970 and use it as a laboratory to see if what looked good on paper would look equally good in practice. It did. And the market development department officially came into being last May 1.

As it's now set up, commodity profit centers cover grain and grain products; food and agricultural products; forest products; energy, metallics and chemicals; and manufactured products, and commodities such as construction materials and non-metallic minerals, along with what BN refers to as "new ventures."

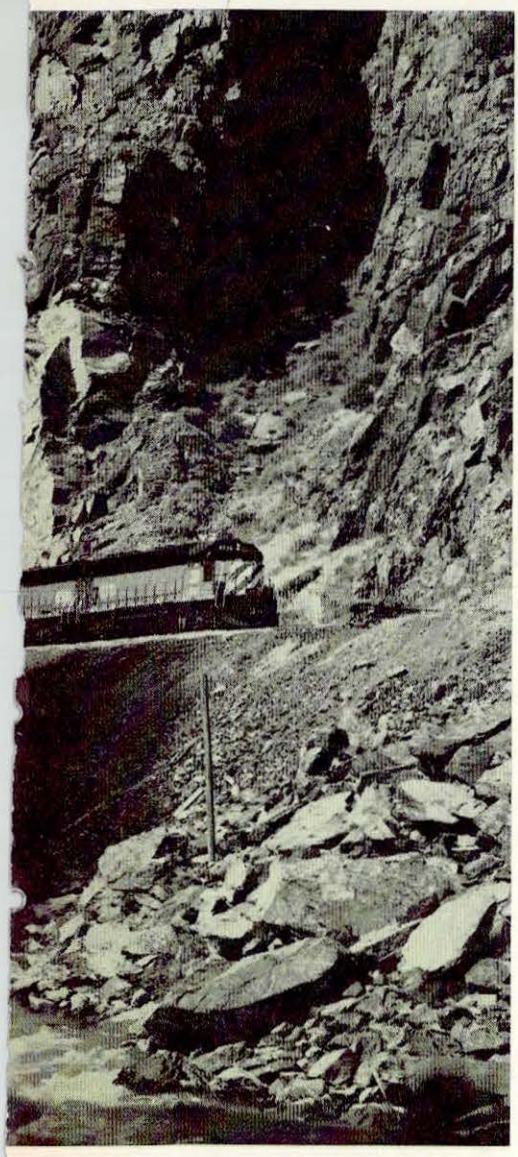
● **How BN's profit centers work.** Within each profit center, four functions are outlined:

—Sales and service, including customer information, program communication, sales promotion planning, the monitoring of sales results and service measurement.

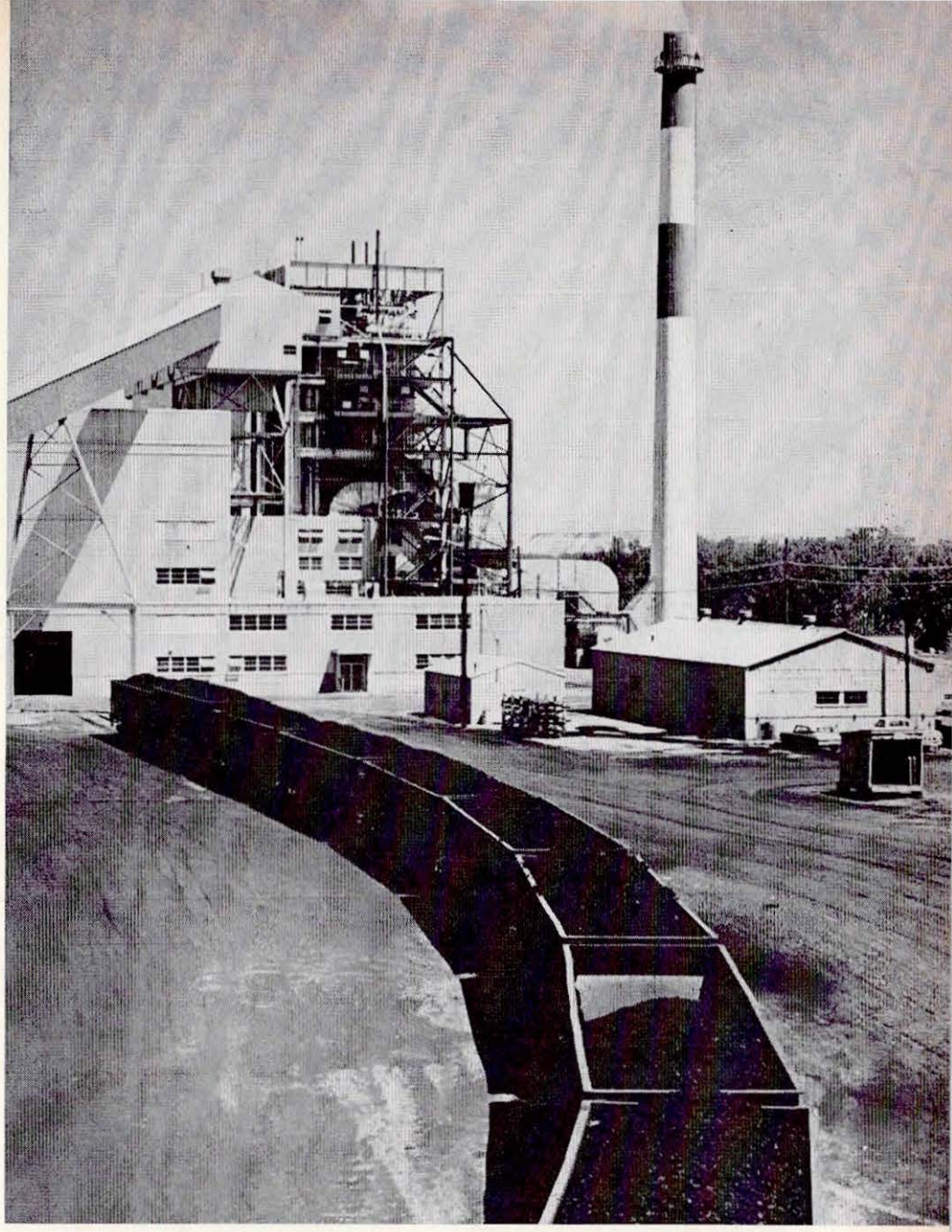
—Price analysis, including commodity pricing analysis, external-proposal evaluation, pricing-policy recommendations and customer price negotiation.

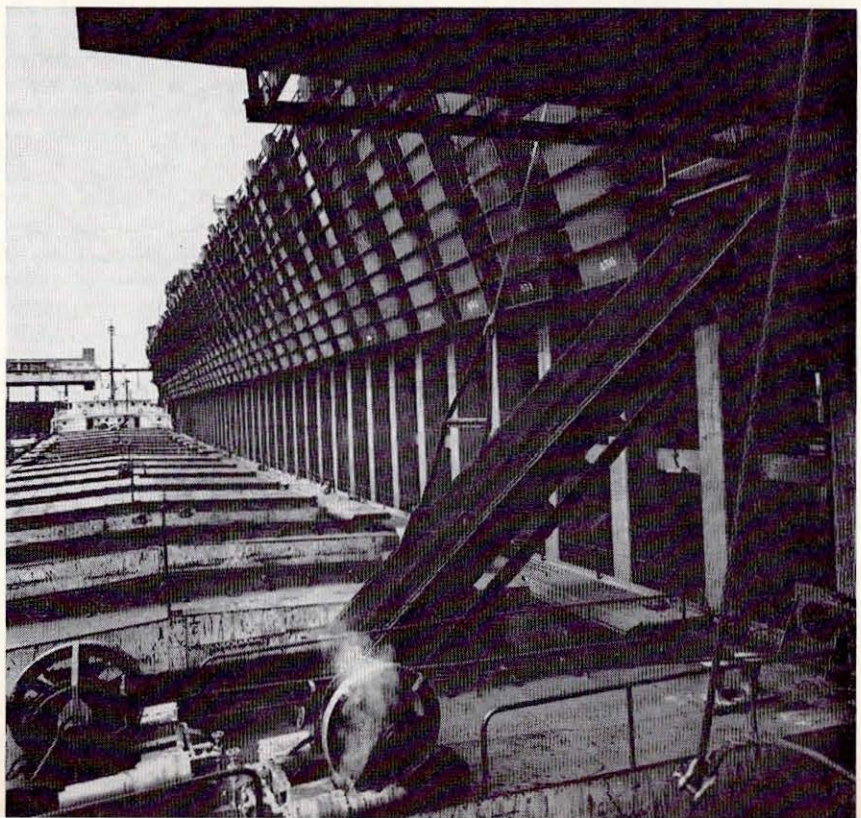
—Cost analysis, including a determination of applicable cost elements and their application to specific proposals. This function also includes commodity-wide economic evaluation and the an-

way

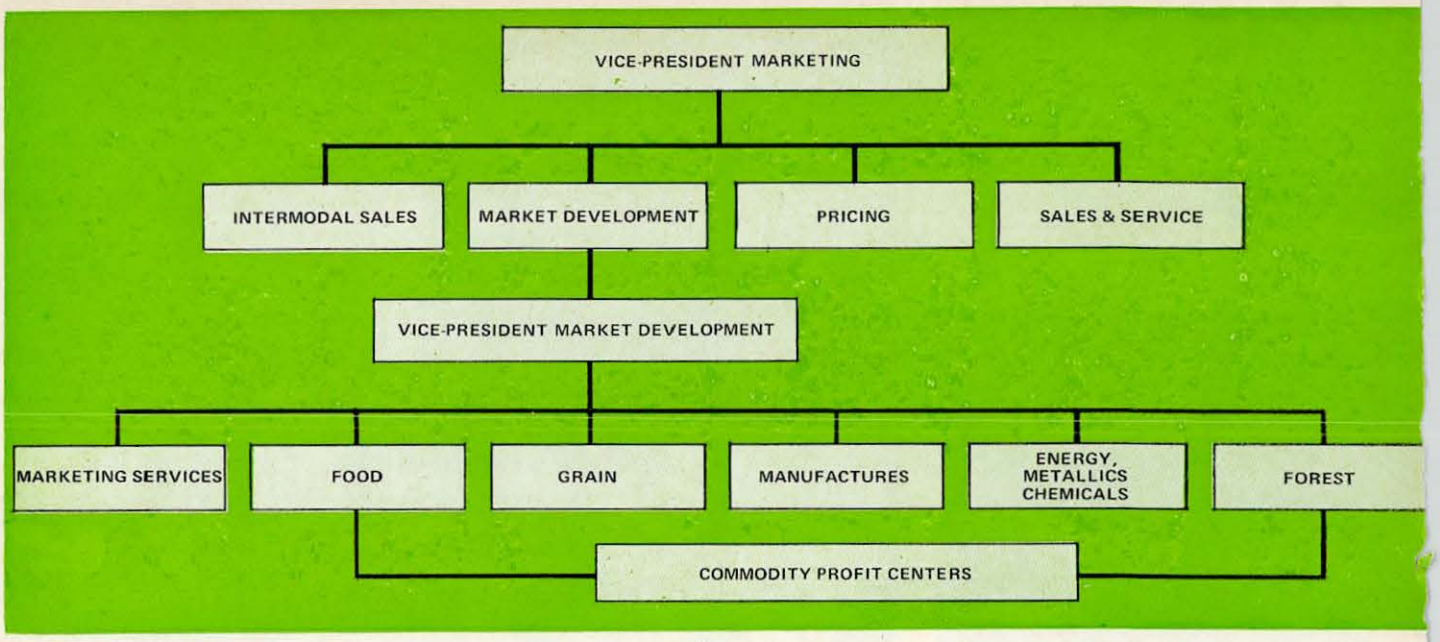


BN'S NO. 77 makes its northwest passage in the spectacular scenery of the Wind River Canyon in Wyoming. This is a new train and a through one, operating from Texas to the Pacific Northwest.





COAL LOOMS LARGE IN BN'S FUTURE—and in the operations of the road's new market development department. Coal revenues jumped 50% last year, and the forecast is for an even-larger percentage increase this year. BN is even experimenting with intermodal movement of coal, by unit train to the head of the lakes and by water carrier to destination.



alysis of competitive alternatives.

—Planning and research, including industry research, logistics systems planning, market-share analysis and project management.

Each of the five centers is headed by an assistant vice president—and Worth Smith has assembled, at that level and below, a group with the kind of diversity-of-experience needed to give market development the kind of expertise it has to have.

For instance, T. C. Kryzer (energy, metallics, chemicals) is a civil engineer who once headed the chemical products division of a major oil company. A. E. Michon (grain and grain products) has been a grain trader, once served as a financial analyst for Boeing and was the former Great Northern's market manager-grain and grain products. G. F. Reynolds (food and agricultural products) came from the former Burlington's traffic department and had been assistant vice president-pricing for BN. W. C. Hageman (forest products) came up through the former GN's traffic department and was at one time GN's market manager-forest products. M. J. Barron (manufactured products, nonmetallic commodities, new ventures) holds degrees in economics and marketing and has had market-manager experience in intermodal operations and in the chemicals-petroleum-fertilizers area.

And Worth Smith? His credentials include Yale, the University of Minnesota and Harvard Business School's advanced management program—and 17 solid years as an operating man, plus a hitch as BN's regional vice president in Seattle in Merger Year 1.

In the structure of BN's marketing department, market development is one of four sub-departments, along with sales and service, pricing and intermodal. At first glance, there would seem to be some overlap in function between the developmental operation and the others—but Smith and the men heading up the other three groups are working toward a meshing of operations rather than an overlap.

● **Joint effort.** Smith is emphatic, for instance, on the matter of market development working with sales and service: "In no way does our work jeopardize field sales and service. Sales and service is largely geographically-oriented, market development is commodity-oriented—and we come together, you might say, at the customer's door, in support of each other."

On pricing, he points out, market-development people will go through the preliminary research on a project "and then be in constant touch with their counterparts in pricing. We would expect the final results on any project to have all the required inputs from throughout the marketing department."

Much the same cooperative approach can be taken between market development and the intermodal-sales group—particularly in the areas of food and manufactured products and import/export traffic.

● **"New and through."** This type of joint effort *is* showing results—one of which is there in living color on the cover of this issue of Railway Age. The train is a new one and a through one, operating from Galveston to the Pacific Northwest. Its run takes it over two BN-family lines (Fort Worth & Denver and Colorado & Southern) and through several of BN's own operating regions. And it is building up a through business, because BN marketing and operating people and the two subsidiaries were able to work together to (1) determine that a fast, consistent, through service was needed; (2) analyze the volume, nature and profitability of the potential business; and (3) make the operation work on the desired schedule.

On this project, BN leaned heavily on its marketing-services staff, working with both the commodity centers and the field sales force to gauge the traffic potentials. Operating personnel worked with marketing. And the benefits are showing up for all three roads involved.

That through-train story, however, doesn't end there. Market-development researchers have several studies now under way on various commodities with southwestern origins which might be susceptible to export movement through Pacific Northwest ports. And, because Texas (in particular) is a major consuming area for certain imports—electronics products, for example—BN is giving a hard look at the operation of a similar through movement in the reverse direction.

● **"If we do this . . . "** In essence, this whole inquiry has been a matter of asking: "If we make certain moves, what can be made available to us?" As Worth Smith sees it, the studies and the results "are a classic example of how market-development can support field sales activity—in the sense that market-development work can transcend geography and the traditional job-responsibility orientation to set up a program which our sales people can use."

Another current success story for BN lies in its booming coal business—the movement of low-sulphur coal from Montana and Wyoming to users in the Midwest. Traffic and revenue increases have been phenomenal. Last year, coal ton-miles almost doubled from 1969

"Sales and service and marketing support each other."
—Worth Smith

Intermodal coal movement: So far, "highly satisfactory."
—T. C. Kryzer

figures, while revenues climbed by about 50%. For 1971, the forecast is for a 60% jump in revenues, from '70's totals. Obviously, last November's pilot-project in a coal-and-ore profit center can claim only a part of the credit for this—but the ongoing operations of Tom Kryzer's "energy" group are working to insure that the future will be secure.

Kryzer and his staff are working to develop, in-house, the expertise which will be recognized and respected by coal producers and users—and which will help to provide from coal traffic the desired long-range profitability for BN. This means that the "energy" profit center has to know everything there is to know about the total environment related to energy and its "transportation"—rail, slurry pipeline, mine-mouth transmission, coal gasification or liquefaction. It also means that BN has to keep on top of every coal-movement project as it develops—and that developmental period can stretch over several years. One example: A new unit-train operation is scheduled to begin in 1973 from a new mine at Gillette, Wyo., to Pueblo, Colo., where a new electric-power generating station will be built; Kryzer will have his group's eye on every detail of the project, to make sure that there will be total coordination—from development of facilities at loading and unloading points to determination of physical-plant and operational requirements which will be placed upon BN itself. And in all such developments—from planning to execution and beyond—Kryzer's group works closely with a separate group in operations, under R. D. Pedersen, assistant general superintendent of transportation.

● **Intermodal coal?** On a long-haul basis, BN is also looking into intermodal coal movement—by rail from western mines to the Great Lakes and by water from the head-of-the-lakes to the consumer. Test shipments are being made—and Kryzer has described the results as "highly satisfactory." In the tests, coal is moving over BN's Allouez ore dock at Superior, Wis., but even this operation is seen as evolutionary. The user-market, oriented toward receiving coal by water, has to be satisfied that it can make effective use of western coal (which may be lower on the b.t.u. scale than coal now being burned). Once this requirement is met, then mines have to be developed (at costs which may range from $15 million to $30 million or so), and long-term contracts for coal production and use have to be agreed upon.

And at some point in the chain of events, BN may well have to make its own commitment to the provision of separate coal-handling facilities. In other words, while Kryzer looks for an increasing volume of coal moving via the Allouez ore dock over the next several years, this, too, may be just an evolutionary step in the development of what may be a far larger operation.

In this area, as in others where market-development people will be working, Worth Smith is looking for the leverage factor, the utilization of assets for maximum benefit to customer and to railroad. He doesn't argue with the short-form definition of marketing as "finding a need and filling it, to mutual satisfaction." He's convinced that the profit-center approach to market development can be the right one: "It's perhaps not so neat as in a product-oriented company, where a profit-center can be very closely defined. In transportation or in any service organization, the measure cannot be made so perfectly. But it's essential that we work in this direction."

Smith has been known to quote a part of the Railway Age "Tomorrow's Railroads" series which noted that "Railroads have basic choices to make. They can turn all their effort toward the bulk-commodity business that creates tremendous volume and doesn't pay much per unit. Or, they can serve this market and at the same time turn their efforts toward the retail side of the business—the new markets, the traffic which demands high-quality service, the freight that now moves some other way (or soon will) because the other way does the job better." BN's vice president-market development sees potential in both the retail and the wholesale side of rail transportation. And he adds a further observation which could be taken as a warning or as a challenge: "Look to the opportunity in recognizing the gradual decline in the traditional mass market. Markets are becoming increasingly fragmented into distinctive consumer sub-segments. The age of the mini-market is replacing that of the mass-market—and that applies as well to industrial as to consumer goods and services."

● **Aids to planning.** There may be many outgrowths of BN's market-development work. Long-range forecasting, for instance, can be of major help in capital-expenditure planning. Commodity-movement planning—operation of minitrains, possibly—could bring labor relations (and the brotherhoods into BN's profitability plan.

With only about a half-year under its belt, the market-development group is well aware of the problems it has and will have. There is a problem externally, in convincing customers and potential customers that BN can help—a problem compounded because there have been instances in which railroads went to a "marketing concept" and proceeded to do things the same old way. There is also a problem internally—because BN's approach involves change, and change comes hard.

The whole operation is based upon a couple of beliefs. One is that if a railroad orients its thinking to the theory that its sole purpose is to create and keep customers whose business is profitable, the total company will perform well. A second, perhaps more specific, is that if BN can key on individual commodities and on its customers through this profit-center approach, "we will evolve a management ability substantially beyond what we have previously been able to do."

A BN man down in the ranks put the same thought in somewhat different words: "If we're going to make it, this has got to be the way." ■

GROCERY PRODUCTS CARS

Protecting an $800-million fleet

Reducing damage to the 35,000 GPCs now in service is the goal of a campaign being mounted by Quaker Oats.

By R. D. BARTLEY, Associate Editor

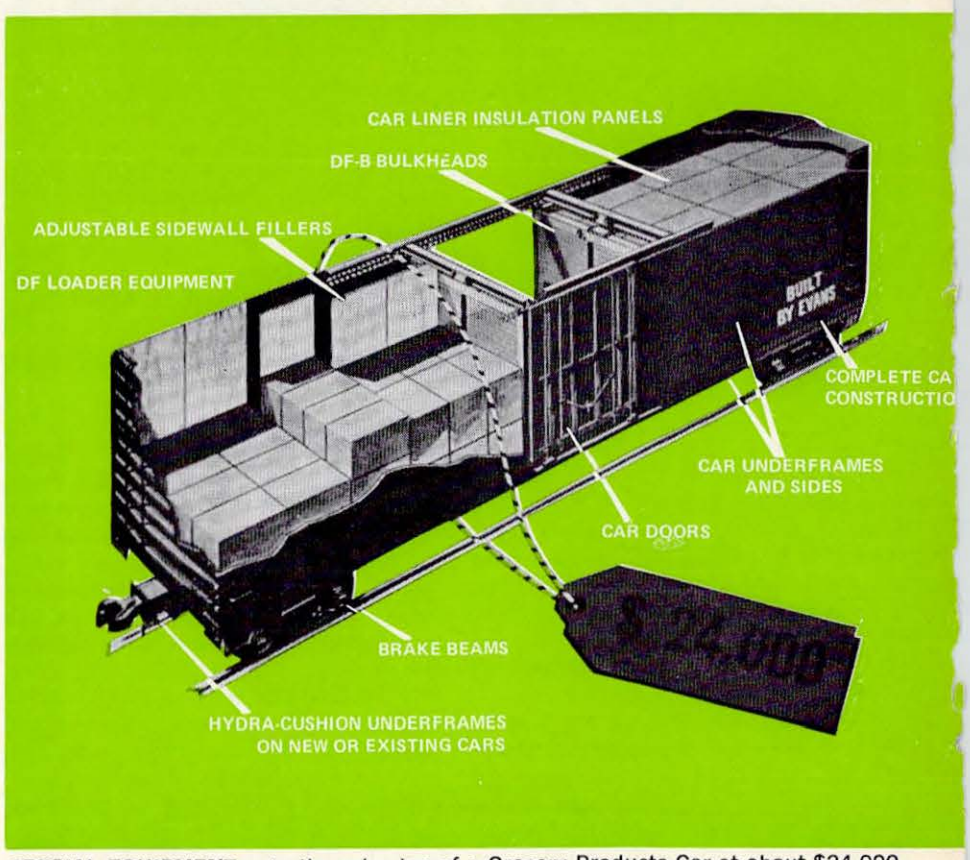
The war being waged by railroads against an age-old enemy—equipment damage—may not be such a lonely one after all. At least one major shipper, Quaker Oats Co., is now mounting a strong campaign of its own in behalf of damage-prevention. It is striking at those two points where damage and its causes seem to be most firmly dug in—shipping and receiving docks.

Quaker Oats' weapon is an education and communication program for workmen and their supervisors at any point where highly-specialized, and expensive ($24,000 each), Grocery Products Cars are loaded. While educational programs have been tried by many before—and for the most part, failed—the approach to solving the problem being taken by Quaker Oats may be the thing needed to turn the tide in favor of the good guys.

● **Plant to pantry.** Quaker Oats has gone to great lengths in seeking better ways to—in the words of Jim Mann, general traffic manager—"get our products from the manufacturing plants into the housewife's pantry in absolute damage-free condition." Not only has this multi-million-dollar shipper conducted its own in-depth studies of its distribution patterns so as to lick the damage problem; it has also hired a consulting firm to study the problem on an industry-wide basis.

The GPC emerges from these studies as a tremendous cost-saver for grocery manufacturers. Says Mann, who is chairman of the Grocery Car Specifications Committee of the Grocery Manufacturers Association, "The GPC is capable of cutting damage at least 50% from what we've experienced with standard box cars. It's not difficult to see why we regard them as vital links in our distribution system."

Quaker Oats just began carrying the educational program's damage prevention message to the loading and unloading docks this past summer. But, preparation for the program began about two years ago under the direction of Sam H. Flint, vice president-distribution and operations research.



SPECIAL EQUIPMENT puts the price tag of a Grocery Products Car at about $24,000.

● **The size of the problem.** At the outset, Quaker Oats consulted railroads, other shippers, receivers and a manufacturer of some of the special equipment that goes into GPCs, to determine the full magnitude of the problem. Here's how the battleground looked:

—There are 35,000 GPCs serving the grocery industry today, with the value of this fleet set at $800 million. About $300 million of this is tied up in cushioned underframes, and special interior load-restraining devices which enable grocery manufacturers to ship unitized, or palletized, loads.

—When damaged, costs of repairs for these cars run considerably higher than those of a standard box car valued at around $16,000. One sidewall filler, for example, costs $100. Worse yet, a bulkhead in a GPC may cost $1,000. An average repair bill for one of these specialized cars, Quaker Oats investigators discovered, runs about $546. This figure, by the way, almost matched to the penny the average repair bill a large manufacturer of freight cars encounters when repairing cars in its own shops.

—At any given time, approximately 13% of Quaker Oats' assigned fleet of 1,600 GPCs will be shopped for repairs. On a total GPC fleet basis, it's estimated that the railroads' annual repair bill tops out at around $3.5 million. "Is it any wonder that railroads keep asking us if we are really using this expensive equipment?" asks J. W. Fylpaa, manager-customer service, who played a key role in developing the Quaker Oats damage-prevention program. "Furthermore, is it any wonder that they keep asking—sometimes demanding—that we help reduce the loss and damage?"

As the Quaker Oats investigation of the problem succinctly revealed, the grocery industry itself had a large stake in damage-prevention. As a matter of fact, it stands to lose more than the railroads when GPCs are out of service.

"We figure to pay an additional $70

KEY FIGURES in Quaker Oats' damage-prevention program have been (left to right) Tom Davidson, coordinator - customer services; Jim Mann, general traffic manager; Sam Flint, vice president-distribution and operations research; and Jack Fylpaa, manager-customer service.

IMPROPER LOADING causes this type of damage and puts the fleet of Grocery Products Cars in jeopardy.

per trip in loading and unloading labor when we have to ship dead-pile loads rather than ones that are unitized," says T. L. Davidson, coordinator-customer services, another key figure in the Quaker Oats program. "So, you can see that we weren't all that altruistic in wanting to get a damage-prevention program started."

● **Climbing costs.** Indeed, the unnecessary cost to the grocery industry each year is staggering—about $6,370,000. Thus, the annual loss altogether, counting in the railroads' $3.5-million repair bill, hops up close to the $10-million mark.

A request for advice

These were the kind of figures Quaker Oats had documented when Jack Fylpaa got in touch with Learning Systems Development Corp., Cincinnati, Ohio, about a year and a half ago and sought this firm's advice on solving the problem. As was known already by Quaker Oats—and by the grocery industry in general—the causes of equipment damage are many and varied, and far too many of them are found on the docks of shippers and receivers. Lift truck operators do more than their share of damage to car doors, floors, bulkheads and side-fillers, and sometimes shippers use the interior equipment improperly. Railroads don't get a clean bill of health, either, because they don't always use a feathery touch when switching and handling the cars in trains. Car design may contribute to a high incidence of damage, and maintenance practices aren't often that good.

But, as Quaker Oats is quick to point out, the major cause of equipment loss and damage "is failure to properly secure interior equipment before the car is returned empty, plus failure to return removable equipment."

Reducing damage and improving performance is, according to Jack Fylpaa, a "three-way partnership of distributors, manufacturers and railroads." And, like the railroads, who are sometimes reluctant to tell important shipper-customers that they're doing something wrong, Quaker Oats, which is an important shipper, found itself a bit squeamish about telling some of its important chain-store customers that maybe they could do a better job of unloading and returning cars.

● **Well-received program.** Introduction of the educational program developed by LSDC and the manner in which it approaches the damage problem received enthusiastic support from numerous grocery-chain traffic officials, as well as other shippers and the railroads, when it was introduced earlier this year at a meeting of the National Association of Food Chains in Miami Beach. Receivers, it seems, were just as anxious as Quaker Oats and the railroads to see a fresh approach to prevention of damage.

Before developing any type of written educational program for use by warehouse workers and their supervisors, LSDC conducted an in-depth study of the problem as it existed on both shipping and receiving docks. Unfortunately for those footing the bills for repairs and for added loading and unloading labor costs, the LSDC study revealed the main concern on the docks is for speed, not careful handling or equipment-damage control. There was little awareness of the economic advantages or the energy-saving value of unitized shipping methods; and supervisors,

RAILROADS LAUD THE QUAKER OATS PROGRAM

sometimes through no fault of their own, did not fully understand their own function.

In short, LSDC reported, Quaker Oats and its receivers—and probably the entire grocery industry, too—were faced with a human-performance problem. The best approach, LSDC felt, would be a two-part, self-instructor program for warehouse personnel. Subsequently, Quaker Oats commissioned LSDC to develop two booklets for the program. One, entitled "Handling Specialized Railroad Equipment—A Key to Improving Warehouse Operations," was written for loading and unloading crews. The second, "Reducing Damage to Specialized Railroad Equipment—A Challenge to Warehouse Supervisors," was, as the title suggests, written for the bosses. Both programs are totally self-instructional, requiring nothing more than a pencil and about one hour's time.

● **Action program.** The workman's program is designed to accomplish the following:

—Instill the basic idea that *his* warehouse must make a profit.

—Show how unitized shipping can greatly affect profits.

—Point out that unitized shipments are in danger of being phased out because of excessive damage to the specialized equipment which railroads are providing.

—Explain how damage actually occurs.

—Explain and illustrate the proper handling of interior equipment.

—Show the personal benefits to him if he helps keep unitized shipments in operation.

—Advise him that supervision will be watching out for equipment damage especially that which is caused by carelessness.

The supervisors' program, which more or less complements the workman's program, puts heavy emphasis on appropriate supervisory actions, explains his role, and shows him how he can set up and carry out a continuing damage-reduction program.

A key feature of the self-instructional programs drawn up for Quaker Oats is the feedback the workman gets when he answers questions in the booklet. "The booklet is set up in such a way that the man gets to know almost immediately if he responded correctly to one of the questions," explains Fylpaa. "Immediate feedback is the key to the technique—it reinforces the information learned and is the reason retention is high. To see if he has answered one of the questions correctly, the man merely turns to the following page, and it's there for him."

● **Questions—and answers.** Here's a sample of a question frame that's found about midway through the employee program: "Occasionally, rail cars arrive at the warehouse with jammed or hard-to-open doors. Some people try to open these doors with fork lifts. Sometimes this works. Often, though, the forks slip or they aren't properly positioned, and the rail-car door is damaged (usually, the door is cut).

"Whenever you're faced with a hard-to-open door, first check to make sure that the door's locking mechanism is completely unlocked. Then, if the door still won't open, use a pry bar or crowbar to work it open.

"The best way to avoid damage to rail-car doors is to never try to open the door with a ————————."

The correct answer, "fork lift truck (or similar answer)," appears on the following page in the booklet, thus providing the workman with the opportunity to check his answer immediately. Many of the 87 question frames have illustrations, with some of them showing the right and wrong ways to do things. At the end of the booklet, there's a self-quiz followed by an answer key.

● **Format's the same.** The warehouse supervisors' booklet, which has the same format as the workman's booklet but has 98 question frames, tests the supervisor in this manner:

"The most costly type of damage to Grocery Products Cars is caused by the failure to *secure special equipment* before returning the car to the railroad.

"Your employees have been instructed in their program to properly secure all GPC equipment before returning the car to the railroads. But since this type of damage is so common and so costly, all Grocery Products Cars must be checked before they're returned to the railroads.

"Check the three types of equipment that must be secured on RBL cars.

————Sidewall fillers
————Crossmembers
————Wooden pallets
————Bulkheads
————Doorway rails"

The correct answers—fillers, pallets and bulkheads—are shown on the following page, thus aiding the retention process.

● **The problem, spelled out.** Before either workmen or their supervisors embark upon the self-study program at one of Quaker Oats' several warehouses, they are advised by a local supervisory study leader of the purpose of the programs. If new employees are involved, a tour of the facility is part of the introductory program. Also part of the introduction—for both new and veteran employees—is a unique slide/tape discussion of the problem confronting Quaker Oats and its GPCs, with Flint and Fylpaa featured on the tape. This 20-minute message is packed with facts and figures emphasizing the importance everyone should attach to the reduction of costly damage.

Following its premiere last March at the meeting of the National Association of Food Chains, the Quaker Oats' program has been viewed by several other organizations. The program booklets are being offered to anyone who wishes to use them, at a cost of 75 cents each. Over 1,000 of the booklets have been distributed outside the Quaker Oats organization thus far, says Fylpaa.

● **Railroads take a look.** A number of railroads had an opportunity to review the presentation in raw form, and offered suggestions which were eventually incorporated into the final version. Q. W. Torpin, general superintendent of transportation at the Milwaukee Road, one of the roads that reviewed the program, rates the Quaker Oats approach to damage-prevention as one of the finest he has ever seen and one "which we'd like to see get more exposure, such as at Shippers' Advisory Board meetings and meetings of specialized equipment groups."

At the Illinois Central, G. F. Campbell, assistant regional sales manager, regards the Quaker Oats program as "one of the most innovative ever undertaken by an industry to assist a railroad in preventing damage claims."

With the aid of "a lot of follow-through effort by everyone involved, the Quaker Oats program should help solve a number of L&D problems," says R. L. Fehlber, assistant vice president-traffic, Norfolk & Western, who immediately ordered copies of the program booklets for key personnel on his road after viewing the presentation.

The direct dollar loss railroads suffer due to the failure to restore DF equipment and load dividers is compounded, Fehlber feels, by the loss that eventually must be borne due to a high cargo-damage ratio for the car because of the missing load-restraining devices. Ultimately, there will be idle car days, he adds, and "they break your back, especially when cash dollars are so tough to come by."

Since Quaker Oats discovered through a comprehensive dry run of the over-all program that it has the capability of, in the words of Sam Flint, "Yielding a high proficiency by both employees and supervisors," there's an air of confidence at Quaker Oats that the finished product will make a beneficial impact upon damage-prevention. ■

FREIGHT-CAR NEEDS:

More adequate financing plus greater reliability

By **FRED HOUSER,** Mechanical Editor

Two environments—one financial, which could assure an adequate freight-car supply; and the other technological, to assure a new degree of freight-car reliability—were discussed at the 1971 Dresser Railroad Engineering Conference. That neither of these areas is adequately firmed up right now was obvious. That finally something is being done to resolve both—and that finance and technology must be more thoroughly integrated—also became obvious as the two days of sessions at Depew, N.Y. proceeded.

The Transportation Equipment Division of Dresser Industries annually brings together a group of technical delegates from railroads, private car line and carbuilders at its Depew facility. C. D. Buford, president of Trailer Train, told this group that in the midst of major mechanical changes in rolling stock, "one of the most fundamental challenges of all is financing and addition of large increments of new and modern equipment to the freight car fleet."

● **Worsening shortage.** Buford cited some of the findings and recommendations of a freight-car study group sponsored recently by the National Research Council. While a substantial freight-car shortage is not expected in the next year or two, perpetuating present methods of fleet acquisition should see shortages begin and "gradually increase to serious proportions over the next 20 years." The rate of return on general-service cars "is too low for a railroad to justify such an investment." Since railroads already have enormous investments in freight cars, utilization of the fleet is partially dependent on added investment in yards, terminals, rights-of-way, communications and management skills.

The NRC group agreed that individually, and as a group, railroads are incapable of replacing retired cars and expanding the fleet with traditional financing through commercial sources. Among the conclusions:

—Government ownership of the car fleet is undesirable;

—Some form of Federal loan insurance is essential, regardless of who buys the cars—individual railroads, private car lines, a national pool or some other agency;

—Tax inducements are vital in increasing freight car ownership;

—Railroad-owned pools like Trailer Train can improve utilization and reduce costs through standardization;

—Car leasing can aid in the solution.

A national car pool may be the answer—but who will pay?
—C. D. Buford, Trailer Train

Taking a car out of service mars computerized car records.
—G. R. Clinkenbeard, Frisco

● **A national pool?** Buford cited the testimony of a shipper witness at recent Senate car hearings who concluded that solutions for the car problem "support the formation of a well-managed rail-car pool" and that "the pool should be managed by the railroads, not by a third-party organization that would further separate railroad management from the customers it serves.

"The railroad industry's experiment in creating and fostering Trailer Train to supply essential flat car equipment certainly appears to have been a worthwhile venture," continued Buford. Could an entity similar to Trailer Train be used to supply standard design, general service cars capable of multiple uses that can be acquired in cost-saving volume and have no home except where the next load is?

"Trailer Train can take the necessary steps to prepare itself to serve the industry more broadly in the future," concluded Buford. "But neither can Trailer Train, nor an entity similar to it, nor the railroads individually, meet the task of providing essential equipment without broader sources of capital."

● **Needed: Cars for the '80s.** "The freight cars of the early 1960's are not doing a good job in the 1970s," reported G. L. Rosseau, manager of freight car engineering of Pullman-Standard, early in the technical sessions. "The modern car simply does not stay modern long," he added. "In the remainder of the 1970s 500,000 cars will be built that will do a major portion of the rail hauling in the 1980s." His conclusion: It is time for a coordinated program to research problems of transportation in the 1980s with special emphasis on improved trucks, wheels, couplers and draft gears.

R. S. Roland, chief engineer of Pacific Car & Foundry, spelled out some of the builders' problems:

—Cars are designed to conform with a gross vehicle weight specified by the railroads who then consistently allow overloading;

—Loading patterns in real life are not in accord with the load distributions specified by industry design manuals and loading rules;

—Concentrated floor loads are often

far above those which specifications call for;

—Longitudinal impacts are far higher than specified.

"New cars are a venture into the unknown," observed G. E. Reed, director of engineering for ACF's Amcar Division. He noted that the physical environment is not properly defined even for routine conditions, let alone the one-time, exceptional impacts to which a car may be subjected. He added that an empirical basis for car design had sufficed until competitive pressures pushed cars beyond known limits.

● **What record shows.** Private car line representatives summarized their experiences on replacement of parts on tank cars, covered hoppers and piggyback flat cars. J. F. Krauss, supervisor of fleet maintenance for General American, noted that individual tank cars often cost $100,000 and occasionally a car will go as high as $250,000. Computerized records on 70,000 parts on 65,000 GATX cars reveal that wheels are the most expensive single maintenance item, with 100-ton cars getting only about half the mileage of 50-ton cars. In second place for GATX maintenance are couplers and related parts.

H. W. Morris, assistant vice president of Union Tank Car, reported a disturbing increase in body center plate failures and asked if the traditional approach of strengthening this item might not transfer the high loads and consequent failures to adjacent parts such as truck and body bolsters. "Are we treating the symptoms and not the disease?" he asked.

An analysis of ACF tank car records indicates an increase of 5% per mph in maintenance costs when cars are operated in trains running at high speeds, according to W. J. Ruprecht, director of engineering for ACF's Shippers Car Line. His conclusion: Present car trucks are good only to 60 mph. The possibility that unbalanced and eccentric wheels might be contributing to the poor ride of piggyback cars is being investigated by Trailer Train, reported A. O. Taylor, chief mechanical officer. The vibrations which result could affect truck parts and damage lading. It is possible, he said, that high-speed cars might need wheel balancing and indicated little doubt about the need for an improved car truck.

● **Railroad findings.** In a discussion of the causes for mechanical delays to freight trains, L. S. Presson, Southern's assistant chief mechanical officer, warned that glamorous car designs must be tempered with cost considerations,

Altogether, bad-order cars cost the industry $150 million yearly.
—G. A. Kellow, Milwaukee

"that we must live tomorrow with the cars we design today." He observed that many minor failures bring trains close to major accidents. Southern finds the major causes for delays to be the air brake system and the coupling system.

The Missouri Pacific reported a similar pattern of car malfunctions and R. C. Hixson, superintendent of car department, stressed the importance of having sufficient time to inspect and repair cars so that en route train delays will be minimized. Union Pacific, according to R. L. Dyson, assistant general mechanical engineer, puts trucks and parts in first place as a cause of train delays, followed by brakes.

P. V. Garin, assistant vice president—research, Southern Pacific, commented on unexplained derailments, shifted loads and over-emphasis on the performance of individual parts, neglecting the satisfactory functioning of the entire car.

● **What does it cost?** A panel attempted to put a price on out-of-service equipment. G. R. Clinkenbeard, Frisco's

Railroads need cars that will maximize revenue per car per day.
—H. L. Gastler, C&NW.

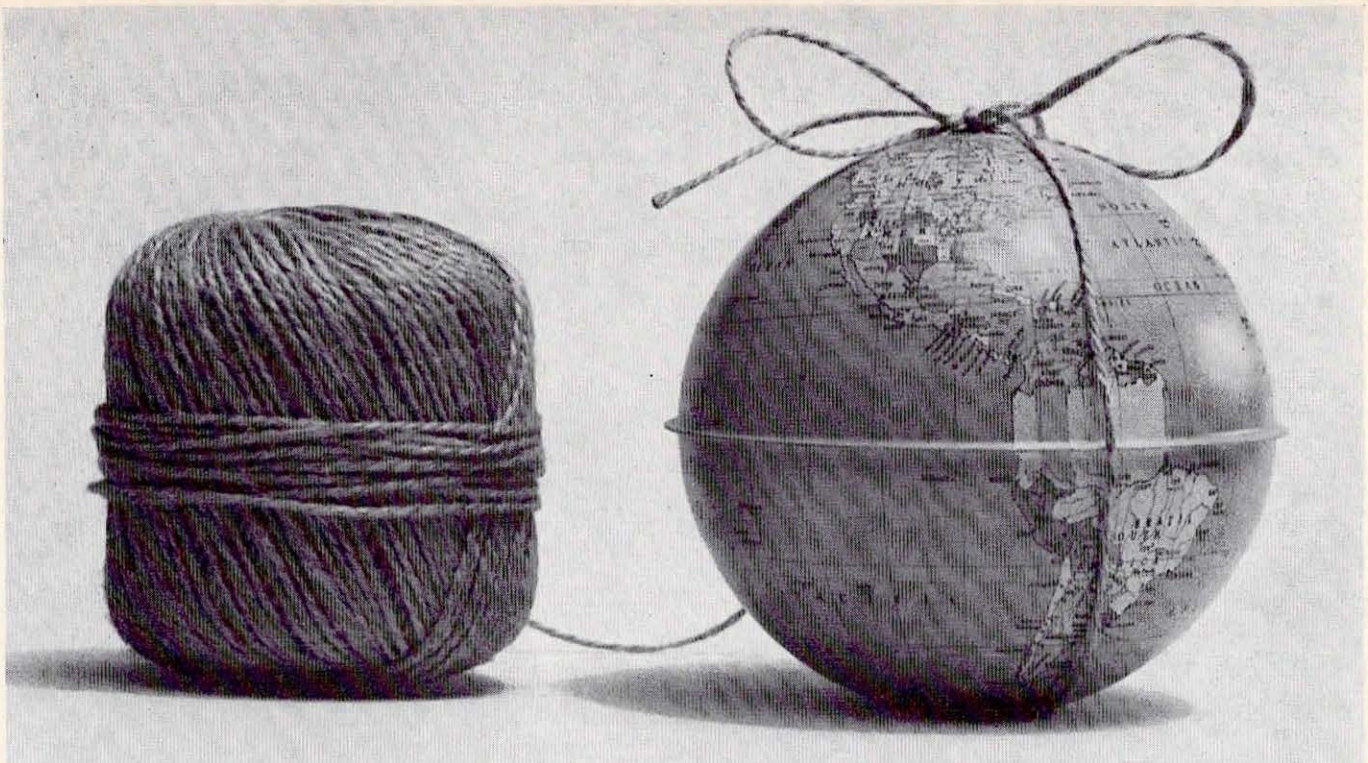
director of transportation service and planning, noted that cars which require cleaning, running repair or heavy repair all represent interruptions in the normal transportation flow. He pointed to the many car and waybill separations which result when cars must be taken out of trains and the problems in computerized car records which also result.

G. A. Kellow, vice president—management services, Milwaukee, found that estimating the cost of bad-order cars is difficult. He feels, however, that his road sustains an average $1 million annually in derailments resulting from car defects, $500,000 in switching and handling bad-order cars, and a $1.3-million loss in revenues because such cars are unavailable. His guess is that for the whole industry the figure approaches $150 million yearly.

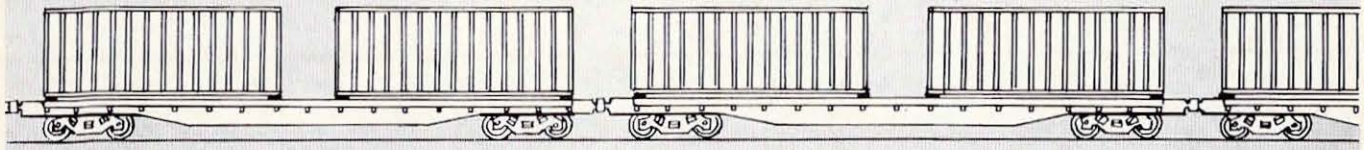
H. L. Gastler, vice president of operations for Chicago & North Western, called attention to an equipment cost of $5 per dollar of annual revenue for a highway truck compared with $20 per dollar for a freight car, adding that "we are not now really responsive to real utilization figures." Railroads, he said, "have never been able to afford bad-order cars" and pressures from this are increasing on this capital-intensive industry. Traditional approaches, he continued, "have almost done the industry in." The ultimate challenge must be to utilize car designs and components that will maximize the revenue per car per day.

● **Another viewpoint.** The "undeclared war" between track and equipment engineers was discussed by J. T. Sullivan, Penn Central engineer of track. He agreed that higher, longer and heavier cars and locomotives have aided in gaining traffic, but that they have also been hard on track with the elastic limit of rail steel now being regularly exceeded. "Has the lowest cost solution to the car placed a penalty in terms of track life and maintenance?" he asked. Recent equipment designs have, in effect, he concluded, "taken the factor of safety out of the rail."

What can it mean? Dr. William J. Harris, vice president—research and testing, AAR, called for a broader perspective on where we are today and where we will be tomorrow. He said that research spending by the $12-billion railroad industry is very small and without a comprehensive approach. He noted that there has been no good design guidance for builders and suppliers which would make it possible to produce equipment with the reliability necessary for the transportation challenges of the future. ■



string along with us... & we'll give you the world.



Containerization means all the world to all shippers. Now cargo goes directly into a container that goes by truck or rail or both directly shipside. Only two handlings instead of a dozen or more, thanks to practical and economical innovations like containerization.

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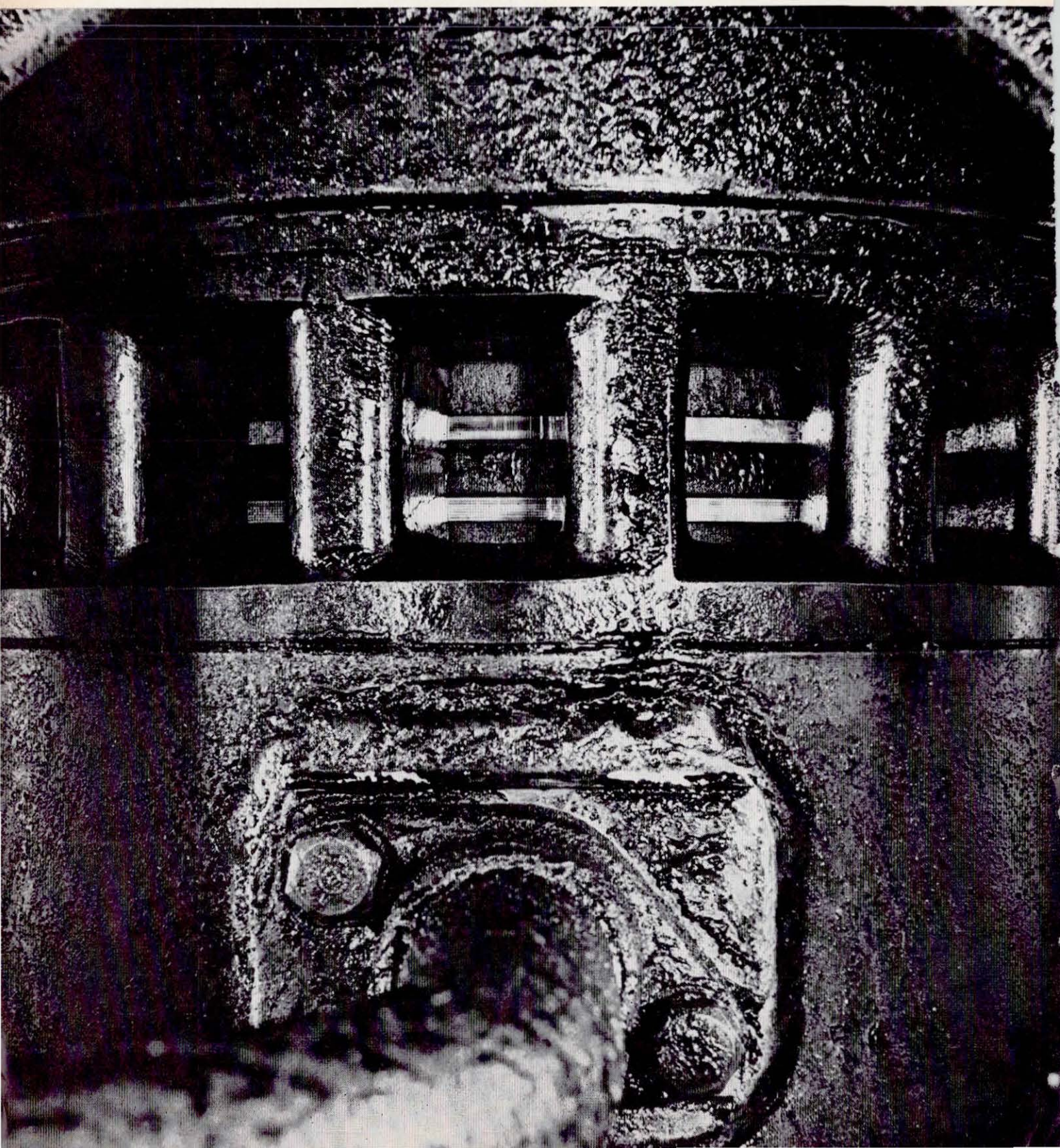
Circle 11 on coupon page 63

Shell Tornus® Oil has railroad–for over a



been working on the half billion miles.

High performance TORNUS Oil has been helping over 2100 EMD diesels run at top efficiency for 18 leading railroads. Total track miles to date: over 650,000,000. Good idea to get acquainted with this oil.

There are many convincing reasons why Shell TORNUS Oil is preferred by leading railroads. One big reason is better performance for EMD's, resulting in long-term cost savings over conventional oils. Just look what this oil does:

It helps keep engines clean—TORNUS Oil contains dispersant additives that keep carbon and soot particles in suspension. The oil gets dirty instead of the engine.

Result: lower engine operating temperatures, freedom from ring-sticking, oil ring plugging and deposits in the intake air ports that can steal power.

It provides anti-wear protection—This oil maintains an alkaline reserve that helps protect engine parts against corrosive wear.

It helps prevent engine damage from water leaks—The additives in TORNUS Oil help it "swallow" water. There's less danger to engines when minor water leaks occur.

It provides safe lubrication over extended service intervals—With TORNUS Oil, periods between cleaning of oil coolers are longer than with conventional oils. Oil filter life is two to three times better. Oil quality between changes can be maintained and drain life extended.

It helps reduce the frequency of engine shutdowns—TORNUS Oil stretches the time between costly shutdowns caused by plugged filters and hot oil alarms. It helps keep oil coolers clean and keeps trouble-causing particles in suspension.

Efficiency plus savings

Add up these advantages and you see that TORNUS Oil not only helps EMD's maintain efficient operation; it can offer users of conventional oils long-term savings as well. Savings through less frequent replacement of moving parts such as pistons and bearings. Savings in engine clean-up time at overhaul.

Shell specialists made TORNUS Oil the hard-working, stable oil it is today. And they're not sitting on their hands. They're watching the horsepower curves. They're thinking about the next generation of Shell lubricants for high-output engines. Keep an eye on Shell.

Is there an idea here for you?

Your Shell Representative is the man to see for full details about TORNUS Oil. Call him soon at the Shell office nearest you. Shell Commercial Marketing, One Shell Plaza, Houston, Texas 77002.

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Shell Tornus® Oil

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◀ AFTER 94,360 MILES, the No. 3 cylinder of this EMD-SD-40 on TORNUS Oil is exceptionally clean. No power-robbing deposits on air intake ports. Rings are in excellent shape. Original hone marks are still clearly visible on the liner. EMD-SD-45 diesels are typical examples of the more than 2100 EMD engines throughout the country using TORNUS Oil.

Circle 12 on coupon page 63

"If anybody makes an engine they think is more reliable than a Mercedes-Benz, it'll take them seven years to prove it to me."

Dr. Milton Ratner, Chairman, Midwest Emery Freight System, Inc.

"Midwest Emery has learned some expensive lessons trying nearly every new engine that's come along," says Dr. Ratner.

"So far there's nothing even close to the Mercedes-Benz OM 636. We've run one engine day and night for a year and a half with just regular maintenance. Used others to keep ice cream solidly frozen in non-insulated trailers. Nothing seems to faze them. In fact, our Mercedes-Benz engines average seven years without an overhaul."

To Mercedes-Benz such performance isn't exceptional—it's expected. We've been building, testing, and improving our diesel engines since 1907.

That's why today's OM 636 is designed with forged aluminum pistons that stretch overhaul cycles to improbable lengths. Why we designed a one-piece cylinder crankcase casting that virtually eliminates leaks. Why we specified glow stud plugs for easier cold-weather starting and a water-circulating pump with sealed in lubrication.

And why today, eighty-five percent of the controlled temperature market uses the Mercedes-Benz OM 636 as a prime mover.

Some call our little diesel the standard of the industry. But to Dr. Ratner, it is the industry. As he puts it, "That engine revolutionized food transporting the way jets changed air travel. Today we're among the largest haulers of perishable food in the world. But our business would probably be one third the size without the OM 636."

For more information, just write to Daimler-Benz of North America, Inc., Industrial Div., 126-56 Northern Blvd., Flushing, N.Y. 11368. Or call us at (212) 899-4000.

MERCEDES-BENZ

Dr. Ratner and two of his more than 2,000 OM 636's. The one on the trailer (232797) is a 1963 model. The one in the foreground (922031) dates back to 1962. Neither one has ever been overhauled.

Second Quarter and Six Months' Figures of Calendar Year 1971

(Dollar figures are stated in thousands: i.e., with last three digits omitted)

Name of Road		Average mileage operated during period	Operating Revenues: Freight	Pass.	Total 1971	Total (inc. misc.) 1970	Operating Expenses: Maint. Way and Structures: Total 1971	Total 1970	Deprec. and Retirements	Maint. Equipment: Total 1971	Total 1970	Deprec. and Retirements	Traffic	Transportation	Total 1971	Total 1970	Operating ratio 1971	Operating ratio 1970	Net from railway operation	Railway tax accruals	Net Railway operating income 1971	Net Railway operating income 1970
Akron, Canton & Youngstown	3 mos.	171	1,986	—	2,072	1,975	576	353	16	412	338	127	96	757	1,958	1,613	94.5	81.7	114	223	59	216
	6 mos.	171	3,608	—	3,747	3,641	811	624	44	811	644	254	185	1,415	3,482	3,086	92.9	84.8	265	445	292	364
Ann Arbor	3 mos.	299	2,515	—	2,626	2,397	294	233	21	517	453	121	54	1,452	2,407	2,079	91.7	86.7	219	201	—169	—96
	6 mos.	299	4,982	—	5,141	4,604	574	441	44	1,009	862	251	104	2,810	4,690	4,082	91.2	88.7	451	403	—435	—290
Atchison, Topeka & Santa Fe	3 mos.	12,904	186,880	1,275	198,591	185,286	33,879	29,582	2,783	38,272	37,558	10,948	4,616	71,603	156,985	152,386	79.1	82.2	41,607	16,336	21,557	11,199
	6 mos.	12,904	364,046	4,827	390,300	364,782	59,951	57,096	5,445	78,231	73,623	22,097	9,462	141,788	308,389	298,648	79.0	81.9	81,910	34,723	37,401	22,450
Baltimore & Ohio	3 mos.	5,552	131,946	308	138,121	127,740	18,100	16,400	1,004	22,061	20,171	2,844	3,139	49,278	100,959	95,299	73.1	74.6	37,161	9,284	12,179	9,455
	6 mos.	5,552	251,459	748	263,166	237,311	33,200	29,400	2,579	43,119	39,086	5,710	6,215	97,479	196,483	183,400	74.7	77.3	66,683	18,430	17,299	10,047
Bangor & Aroostook	3 mos.	543	3,288	73	3,442	3,700	924	1,019	72	1,127	1,175	438	76	1,018	3,374	3,699	98.0	100.1	68	308	965	688
	6 mos.	543	6,721	134	6,992	7,516	1,892	1,949	130	2,151	2,480	876	154	2,286	6,945	7,559	99.3	100.6	47	633	1,319	781
Bessemer & Lake Erie	3 mos.	221	14,772	—	15,943	12,960	1,473	1,391	149	2,634	1,880	459	164	3,491	8,747	7,250	54.9	55.9	7,196	3,413	3,180	3,057
	6 mos.	221	22,824	—	24,617	18,943	2,580	2,171	277	4,700	3,563	984	334	6,031	15,609	12,665	63.4	66.9	9,008	4,166	4,330	3,796
Boston & Maine	3 mos.	1,515	15,985	1,338	19,031	18,266	2,815	2,604	414	3,329	2,828	637	371	8,443	15,914	15,056	83.6	82.4	3,118	1,540	—173	—123
	6 mos.	1,515	32,235	2,865	38,244	35,083	5,995	5,431	859	7,014	6,198	1,268	705	17,222	32,910	31,140	86.1	88.8	5,334	3,051	—1,744	—2,882
Burlington Northern	3 mos.	23,618	227,050	2,793	239,543	212,965	36,696	33,137	3,733	44,406	39,594	11,570	5,815	92,822	194,125	187,015	81.0	87.8	45,418	20,643	18,160	7,457
	6 mos.	23,614	428,331	8,051	456,685	405,588	65,956	59,537	7,526	85,469	77,423	23,302	11,965	190,142	383,487	356,749	84.0	88.0	73,198	40,420	20,463	9,736
CPR Lines in Maine	3 mos.	234	1,852	44	1,955	1,707	384	285	64	463	443	47	65	726	1,788	1,601	91.5	93.8	167	88	—223	—250
	6 mos.	234	3,692	86	3,862	3,787	763	573	127	846	836	94	129	1,516	3,555	3,187	92.0	84.1	308	173	—534	—158
Central of Georgia	3 mos.	2,087	18,044	76	18,570	16,388	3,619	3,182	235	2,938	2,845	863	362	5,343	13,112	13,112	70.6	80.0	5,458	2,362	2,240	1,113
	6 mos.	2,087	35,538	189	36,610	32,587	6,672	5,743	468	5,510	5,784	1,707	718	10,478	25,089	25,328	68.5	77.7	11,521	5,300	4,782	2,586
Central RR of New Jersey	3 mos.	591	10,652	1,087	13,961	13,312	1,583	1,898	285	2,327	2,232	318	230	5,870	10,910	12,010	78.1	90.2	3,051	1,086	605	—1,655
	6 mos.	591	20,007	2,222	27,663	24,877	3,171	3,506	1,014	4,295	4,404	639	447	11,839	21,502	23,532	77.7	94.6	6,162	2,171	1,130	—4,735
Central Vermont	3 mos.	382	2,380	1	2,499	2,331	477	423	9	174	220	14	21	843	1,602	1,622	64.1	69.6	896	149	753	361
	6 mos.	382	4,442	2	4,628	4,513	1,015	942	86	423	424	27	39	1,802	3,488	3,354	75.4	74.3	1,140	354	1,129	387
Chesapeake & Ohio	3 mos.	5,067	126,476	87	132,058	119,943	17,700	14,100	1,602	24,341	21,708	6,110	3,072	45,610	98,016	91,778	74.2	76.5	34,042	13,476	14,755	15,243
	6 mos.	5,067	240,387	334	250,440	223,604	32,000	26,550	3,309	48,329	43,317	12,252	5,895	90,820	191,305	179,425	76.4	80.2	59,135	23,748	25,577	20,038
Chicago & Eastern Illinois	3 mos.	643	9,090	—	9,171	7,973	1,793	1,713	55	1,865	1,539	362	308	3,195	7,556	6,930	82.4	86.9	1,615	326	472	—181
	6 mos.	643	16,723	—	16,942	14,678	3,187	2,804	107	3,377	2,837	725	610	5,821	13,775	12,653	81.3	86.2	3,167	695	844	—480
Chicago & North Western	3 mos.	11,016	78,566	5,495	87,909	80,170	12,729	12,400	1,814	13,590	12,022	4,236	2,093	35,356	68,756	64,447	78.2	80.4	19,154	6,538	5,300	2,374
	6 mos.	11,030	149,683	10,881	168,146	151,611	23,570	22,225	3,849	27,647	25,086	8,577	4,282	71,093	136,597	127,008	81.2	83.8	31,549	12,835	5,509	670
Chic., Milw., St. Paul & Pac.	3 mos.	10,544	69,632	1,505	75,003	70,980	12,913	13,101	1,407	12,746	12,062	3,172	2,127	29,990	62,191	62,137	82.9	87.5	12,812	6,402	—59	—3,340
	6 mos.	10,544	132,658	3,406	144,026	136,024	22,477	22,760	2,806	24,574	23,433	6,376	4,055	59,468	119,468	119,183	82.9	87.6	24,558	12,709	—661	—6,738
Chicago, Rock Island & Pacific	3 mos.	7,408	71,734	1,138	75,893	69,469	11,286	10,380	1,962	14,064	11,514	1,723	1,974	29,864	60,931	57,558	80.3	82.9	14,962	5,178	—1,797	—4,510
	6 mos.	7,408	137,317	2,345	145,827	136,099	21,521	18,893	3,969	26,830	22,036	3,449	3,882	60,233	119,895	111,499	82.2	81.9	25,932	10,271	—6,665	—7,406
Clinchfield	3 mos.	309	9,348	6	9,456	9,155	1,062	803	85	1,580	1,366	597	275	2,718	5,974	5,194	63.2	56.7	3,482	838	2,277	3,106
	6 mos.	309	19,163	6	19,349	17,519	2,092	1,580	165	3,041	2,677	1,192	548	5,300	11,638	10,101	60.2	57.7	7,710	1,659	5,092	5,855
Colorado & Southern	3 mos.	692	5,734	—	5,954	4,774	643	629	57	1,001	774	302	19	2,010	3,996	3,488	67.1	73.1	1,958	909	677	468
	6 mos.	692	10,910	—	11,225	9,746	1,121	1,162	108	1,785	1,517	603	39	3,721	7,266	6,615	64.7	67.9	3,958	1,667	1,581	1,308
Ft. Worth & Denver	3 mos.	1,201	5,517	—	5,692	4,642	824	707	75	629	552	104	71	2,696	4,603	3,992	80.9	86.0	1,089	186	—1	—105
	6 mos.	1,201	11,854	—	12,197	10,045	1,542	1,376	152	1,215	1,035	217	144	5,075	8,666	7,825	71.0	77.9	3,531	978	804	454
Delaware & Hudson	3 mos.	718	12,051	39	12,415	11,899	1,555	1,523	99	2,693	2,346	405	368	4,429	9,777	9,551	78.8	80.3	2,638	1,484	691	894
	6 mos.	735	22,760	145	23,512	23,032	3,024	3,011	228	5,137	4,503	814	743	8,925	19,375	18,967	82.4	82.4	4,137	2,943	296	702
Denver & Rio Grande Western	3 mos.	1,899	27,443	213	28,106	24,429	3,241	2,707	396	4,518	3,704	1,291	911	8,171	18,458	16,449	65.7	67.3	9,649	5,358	4,622	3,625
	6 mos.	1,899	51,874	299	53,059	47,423	5,752	4,941	790	8,487	7,438	2,581	1,814	15,865	35,185	32,438	66.3	68.4	17,874	9,565	8,041	6,815
Detroit & Toledo Shore Line	3 mos.	50	1,994	—	2,129	1,861	198	168	19	326	291	119	79	645	1,379	1,234	64.7	66.3	751	344	288	258
	6 mos.	50	3,815	—	4,066	3,515	406	356	38	643	605	239	138	1,262	2,686	2,554	66.1	72.7	1,380	662	529	327

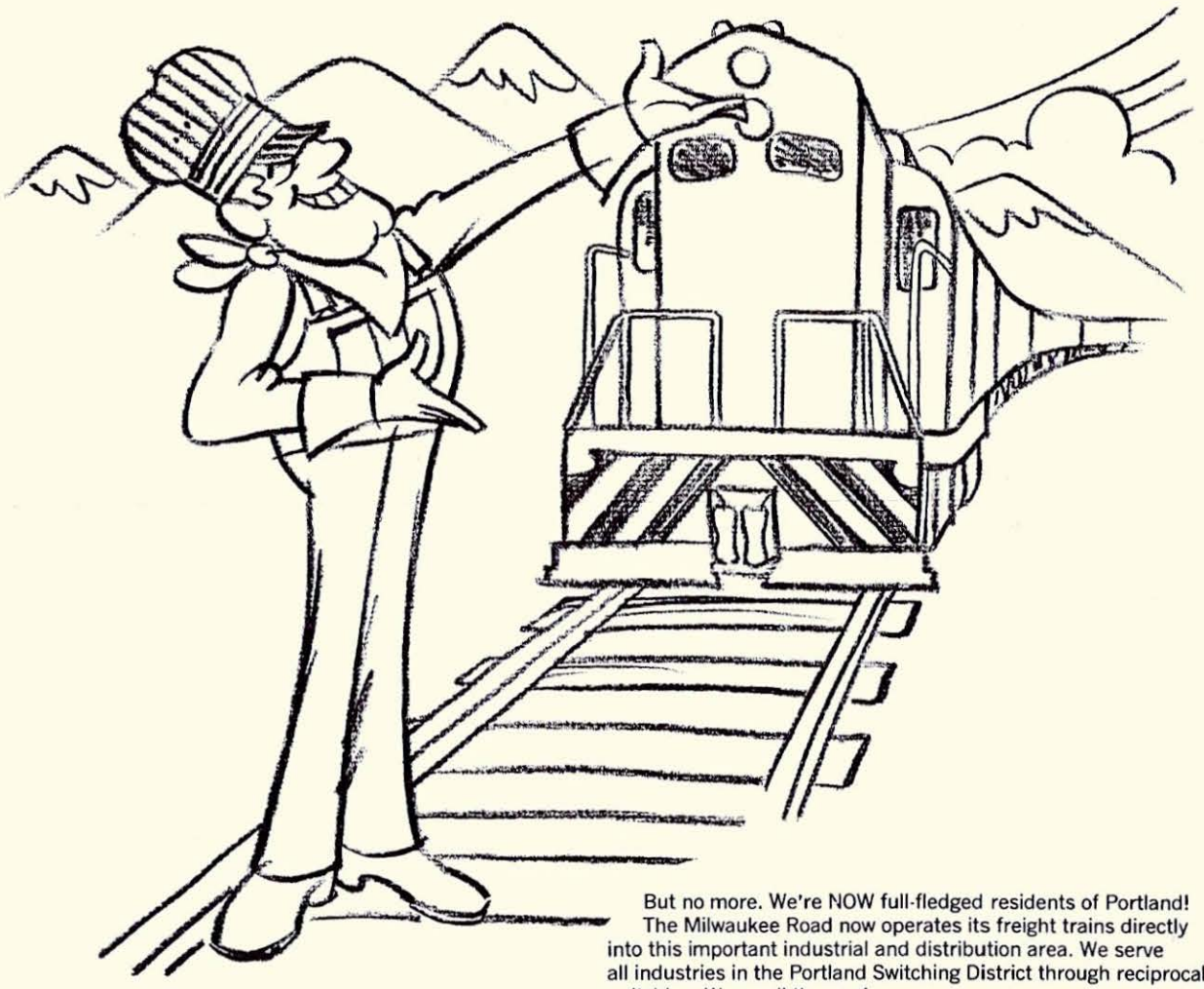
Second Quarter and Six Months' Figures of Calendar Year 1971

(Dollar figures are stated in thousands: i.e., with last three digits omitted)

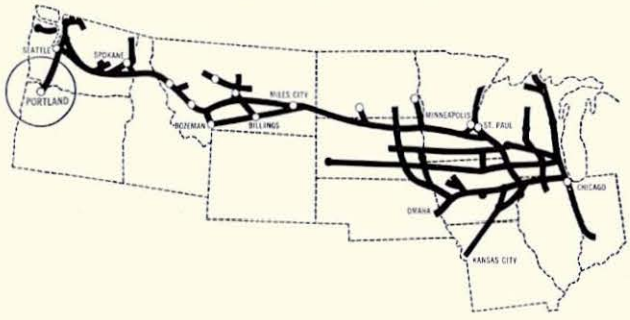
Name of Road		Average mileage operated during period	Operating Revenues: Freight	Pass.	Total (inc. misc.) 1971	Total (inc. misc.) 1970	Operating Expenses: Maint. Way and Structures: Total 1971	Total 1970	Deprec. and Retirements	Maint. Equipment: Total 1971	Total 1970	Deprec. and Retirements	Traffic	Transportation	Total 1971	Total 1970	Operating ratio 1971	Operating ratio 1970	Net from railway operation	Railway tax accruals	Net Railway operating income 1971	Net Railway operating income 1970
Detroit, Toledo & Ironton	3 mos.	478	9,129	—	9,634	7,985	944	796	94	1,908	1,682	563	254	3,337	7,032	6,335	73.0	79.3	2,602	722	1,028	630
	6 mos.	478	17,665	—	18,542	15,589	1,726	1,521	200	3,807	3,219	1,139	481	6,555	13,672	12,372	73.7	79.4	4,870	1,443	1,737	1,375
Duluth, Missabe & Iron Range	3 mos.	507	14,541	—	15,985	14,389	1,646	1,562	212	1,823	1,655	510	68	3,500	8,201	7,400	51.3	51.4	7,784	4,485	3,496	2,723
	6 mos.	507	18,670	—	20,268	18,711	3,008	2,700	422	3,371	3,255	1,049	134	5,562	14,360	12,951	70.8	69.2	5,909	4,255	2,276	1,616
Duluth, Winnipeg & Pacific	3 mos.	170	2,728	—	2,772	2,550	357	338	16	212	260	2	64	947	1,640	1,577	59.1	61.9	1,132	503	429	177
	6 mos.	170	5,314	—	5,381	5,229	666	570	33	424	385	5	127	1,805	3,142	2,851	58.4	54.5	2,239	967	939	663
Elgin, Joliet & Eastern	3 mos.	205	13,142	—	20,095	16,475	1,538	1,698	124	2,491	3,339	—533	227	7,452	13,731	13,058	68.3	79.3	6,364	3,410	2,043	441
	6 mos.	205	25,079	—	37,900	31,189	2,581	3,096	199	4,641	5,764	974	434	14,334	26,129	24,731	68.9	79.3	11,771	6,137	3,666	797
Erie Lackawanna	3 mos.	2,866	64,132	2,733	71,540	69,187	6,992	8,125	777	11,127	10,423	1,821	1,392	31,530	53,964	53,206	75.4	76.9	17,576	5,362	4,981	3,376
	6 mos.	2,866	123,385	5,586	137,743	128,466	13,123	14,579	1,515	22,371	20,999	3,660	2,810	62,021	106,124	104 709	77.0	81.5	31,618	10,733	6,288	—373
Florida East Coast	3 mos.	554	8,541	—	8,700	7,903	2,976	2,768	195	951	1,046	256	216	1,932	6,544	6,309	75.2	79.8	2,156	690	678	173
	6 mos.	554	17,167	—	17,476	15,740	5,977	5,448	390	1,888	2,386	519	423	3,840	13,081	13,028	74.9	82.8	4,395	1,304	1,365	263
Georgia Railroad	3 mos.	331	3,180	2	3,302	2,427	412	385	15	402	406	97	129	1,105	2,205	1,995	66.8	82.2	1,097	146	544	113
	6 mos.	331	6,222	4	6,454	4,759	804	733	47	760	770	195	268	2,133	4,296	3,836	66.6	80.6	2,158	319	1,062	283
Grand Trunk Western	3 mos.	946	22,205	167	23,259	21,173	3,741	2,749	199	3,598	3,223	153	472	11,252	20,563	19,018	88.4	89.8	2,696	2,075	—3,308	—3,431
	6 mos.	946	41,986	452	44,198	38,792	6,086	4,912	406	6,972	6,361	307	891	21,998	38 890	36,585	88.0	94.3	5,308	4,110	—7,484	—8,504
Green Bay & Western	3 mos.	255	1,965	—	2,030	1,792	258	182	22	265	234	52	135	649	1,472	1,314	72.5	73.3	557	335	143	54
	6 mos.	255	3,866	—	3,984	3,443	445	326	43	514	454	104	266	1,292	2,854	2 525	71.6	73.3	1,130	583	304	131
Gulf, Mobile & Ohio	3 mos.	2,734	25,599	153	26,811	25,729	3,826	3,087	333	5,780	5,474	1,432	994	8,991	20,709	19,732	77.2	76.7	6,102	2,124	2,452	2,119
	6 mos.	2,734	50,584	506	53,471	52,012	7,219	6,552	636	11,269	10,577	2,871	1,937	18,019	40,760	39,420	76.2	75.8	12,710	4,433	5,035	4,829
Illinois Central	3 mos.	6,761	83,995	3,434	90,942	86,042	13,002	13,605	1,588	14,812	14,424	4,020	2,205	32,925	67,828	67,880	74.6	78.9	23,113	10,266	7,755	4,713
	6 mos.	6,761	165,588	7,935	180,295	166,009	25,360	23,727	3,176	30,836	28,865	8,088	4,318	66,212	137,326	130,823	76.2	78.8	42,969	18,860	13,796	11,326
Illinois Terminal	3 mos.	395	2,748	—	3,180	3,034	361	307	10	392	434	79	85	1,102	2,149	2,251	67.6	74.2	1,031	228	620	72
	6 mos.	395	5,579	—	6,399	5,821	686	616	20	840	883	162	170	2,259	4,377	4,445	68.4	76.4	2,022	451	1,139	58
Kansas City Southern	3 mos.	1,667	25,070	—	26,406	23,541	3,237	2,771	263	4,186	3,798	1,181	891	8,947	18,454	16,260	69.9	69.1	7,952	2,335	3,196	2,606
	6 mos.	1,667	48,682	—	51,478	45,665	5,797	4,916	529	8,082	7,230	2,369	1,784	17,497	35,444	30,907	68.9	67.7	16,034	4,830	6,316	5,471
Lake Superior & Ishpeming	3 mos.	117	1,435	—	1,945	2,007	299	254	57	320	387	182	10	494	1,248	1,263	64.1	62.9	698	114	720	634
	6 mos.	117	1,529	—	2,250	2,551	553	472	113	702	753	364	17	834	2,382	2,266	105.9	88.8	—132	290	—118	106
Lehigh Valley	3 mos.	927	11,843	—	12,158	12,909	1,594	1,526	394	2,338	1,691	329	379	5,488	10,649	10,509	87.6	81.4	1,510	1,023	—1,185	—476
	6 mos.	927	23,197	—	23,815	24,915	3,171	3,119	685	4,617	3,626	680	756	11,085	21,312	21,500	89.5	86.3	2,503	2,060	—3,006	—2,491
Long Island	3 mos.	322	2,609	21,151	24,548	24 880	4,721	3,706	282	7,092	7,234	1,036	183	18,002	32.161	28,137	131.0	113.1	—7,614	1,660	—10,576	—6,251
	6 mos.	322	4,866	41,083	47,579	47,207	8,802	7,487	547	14,644	14,244	2,122	329	34,881	62,843	55,847	132.1	118.3	—15,264	3,609	—21,592	—14,264
Louisville & Nashville	3 mos.	6,063	105,429	98	108,013	92,627	17,358	13,574	1,385	21,041	18,972	7,474	2,487	37,786	83,921	74,812	77.7	80.8	24,093	8,280	12,214	8,610
	6 mos.	6,063	201,731	283	207,058	182,885	31,104	26,307	2,671	41,877	37,742	14,835	4,797	75,696	164,123	148,532	79.3	81.2	42,935	15,096	20,857	15,965
Maine Central	3 mos.	921	7,203	—	7,505	6,451	1,290	1,280	94	1,552	1,372	270	123	2,444	5,832	5,713	77.7	88.6	1,673	507	940	—120
	6 mos.	921	14,212	—	14,755	13,344	2,795	2,522	184	3,074	2,734	543	242	5,088	12.040	11,449	81.6	85.8	2,715	1,016	1,385	241
Missouri Illinois	3 mos.	333	2,005	—	2,025	1,951	319	342	8	642	743	345	52	384	1,496	1,682	73.9	86.2	529	612	851	850
	6 mos.	333	3,807	—	3,845	3,705	502	648	17	1,294	1,473	691	97	754	2,845	3,316	74.0	89.5	1,000	1,173	1,709	1,626
M-K-T Lines	3 mos.	2,609	18,280	—	18,927	17,813	3,381	2,645	452	2,319	2,243	341	879	6,562	13,983	13,701	73.9	76.9	4,944	1,340	96	—874
	6 mos.	2,609	35,428	—	36,656	33,959	5,917	5,143	836	4,472	4,227	685	1,718	13,144	26.946	26,313	73.5	77.5	9,710	2,707	421	—2,096
Missouri Pacific	3 mos.	8,902	101,123	50	105.471	93,874	16,181	14,402	1,728	17,284	14,961	3,925	2,337	37,681	78,182	70.054	74.1	74.6	27,289	7,098	9,215	7,483
	6 mos.	8,904	196,435	142	205.231	183,391	29,459	27,238	3,235	35,031	30,172	7,906	4,689	72,811	151,405	136,388	73.8	74.4	53,826	14,251	17,393	15,224
Monon	3 mos.	540	6,365	—	6,578	6,022	845	758	62	994	962	194	256	2,391	4,957	4,794	75.3	79.6	1,622	432	55	95
	6 mos.	540	12,132	—	12.524	11,748	1,536	1,442	135	1,980	1,868	394	521	4,696	9,583	9,203	76.5	78.3	2,940	902	181	362
Monongahela	3 mos.	193	1,931	—	1.967	1,544	401	328	74	172	194	20	3	368	990	1,004	50.3	65.4	977	92	619	150
	6 mos.	193	3,566	—	3.637	2,935	693	610	111	321	367	39	6	816	1,915	2,022	52.6	68.9	1,722	193	1,089	166

(Continued on page 42)

Look us over, Portland. We've moved in!



So near, but yet so far. That's probably what Portland thought about the Milwaukee Road. Just out-of-state neighbors from Longview, Washington, 46 miles away.



But no more. We're NOW full-fledged residents of Portland!

The Milwaukee Road now operates its freight trains directly into this important industrial and distribution area. We serve all industries in the Portland Switching District through reciprocal switching. We go all the way!

And what does this mean to you? An additional choice of competitive rail transportation. Another rate-making carrier. A new source of equipment supply. A direct service route via the Milwaukee Road to and from Chicago. A direct service route via the Milwaukee Road to and from the Canadian railroads at Sumas, Washington.

Call your Milwaukee Road representative. He'll be glad to show you why it makes more sense than ever to ship on America's *resourceful railroad!* The Milwaukee Road, Union Station Building, Chicago, Illinois 60606.

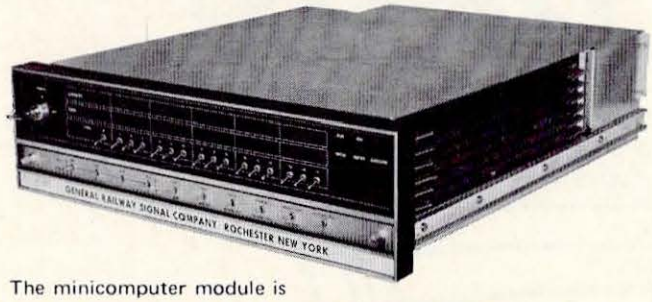
Now you can ship farther on... THE MILWAUKEE ROAD

NEW . . . from GRS

DISTRIBUTED COMPUTER SYSTEM

A Fully Modular System Based on the Minicomputer

This is a brand new concept — the Distributed Computer System. It is a unique, modular system. The minicomputer is the central processing unit. A broadly flexible array of GRS interface modules puts it to work on your specific job — controlling car retarders automatically, routing cars, controlling traffic systems — wherever a programmed, continuously updated, process control system can do the job better and more economically.



The minicomputer module is only five inches high, fits a standard communications rack.

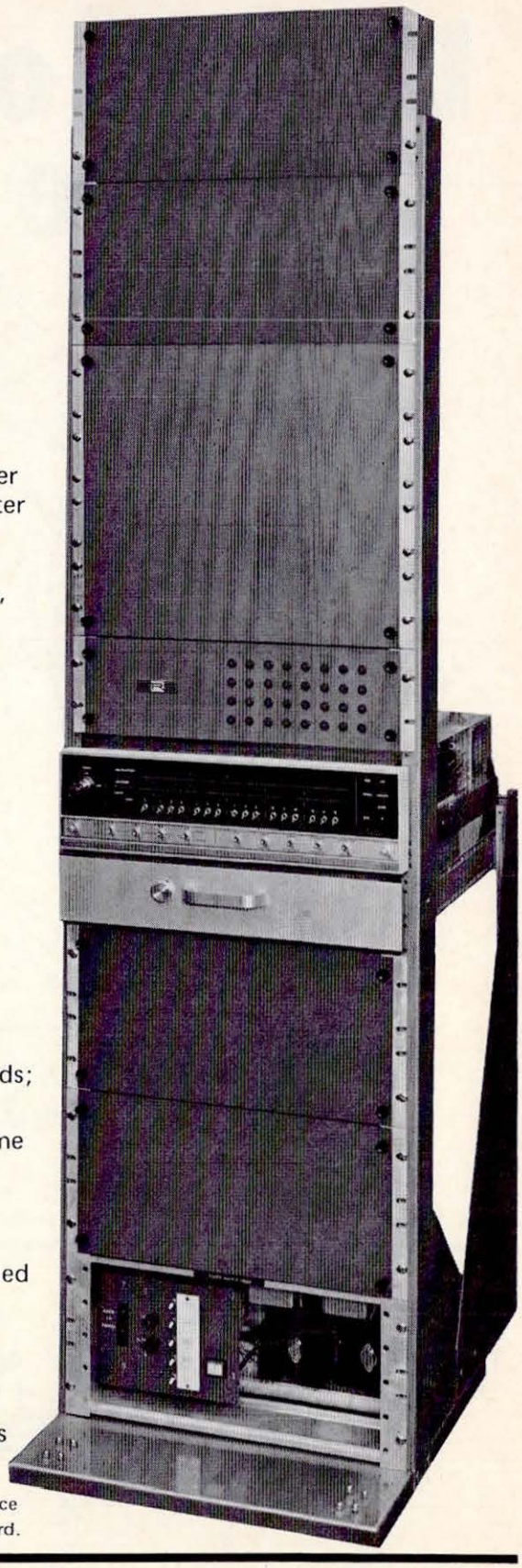
Minicomputer — usually has only five printed circuit boards; they can be changed out in minutes.

Reliability — mean time between failure is high; mean time to repair is short.

Compactness — minicomputer, and all interface modules, fit on 19-inch rack.

Interface Modules — GRS engineered, modular,plug-coupled units, typically with only ten types of PCB's, provide flexible building blocks to fit the system to the needs and capacities of your requirements.

Not a laboratory curiosity, an installation using this GRS system has been at work since June, controlling car speeds automatically in a 16-track gravity yard.



Here is a minicomputer, together with its GRS interface modules, as furnished for a Speed Frate© yard.

GENERAL RAILWAY SIGNAL COMPANY

A UNIT OF GENERAL SIGNAL CORPORATION

ROCHESTER NEW YORK 14602

ATLANTA BOSTON CHICAGO MONTREAL NEW YORK OAKLAND ST LOUIS ST PAUL

3527

Circle 32 on coupon page 63

This railroad went a long way to help Jim Carlson breathe easier.

Jim is sniffing fresher air these mornings. And a railroad has a lot to do with it. Burlington Northern is highballing trainload after trainload of low-sulphur, clean-burning coal all the way from mines in Montana and Wyoming to Midwest power plants.

Several years ago, Burlington Northern's predecessors set out to find additional markets for western coal. Their energy experts, now on the same team at Burlington Northern, were convinced they had a good thing. Biggest obstacle was getting the coal to distant power plants at a competitive price.

Now it's being done. But it took a special high-capacity unit train (similar cars coupled together and handled as a unit). And it took special low rates made possible by the high volume, low handling cost, no frills characteristics of unit train operation.

Now, power companies get low-sulphur coal at a competitive price. Their customers continue to enjoy low electric bills. The air is cleaner. And Burlington Northern earns a profit doing what it's in business to do—providing economical, dependable transportation today while working on ideas to do it even better tomorrow.

BURLINGTON NORTHERN

Burlington Northern. Making things happen in the American West.

TRAIN finds roads cooperating

In several areas, the railroad industry is showing that it can cooperate for progress and improvement. In the operations area, the Association of American Railroads' TRAIN system is in its second year of operation. In the planning area, the AAR network model is now available.

● **TRAIN on time.** Ninety-nine percent of the car interchanges of Class I railroads are now handled by AAR's Tele-Rail Automated Information Network. Timeliness of reporting has been adequate, being measured from the time of interchange to the time the car initial and number is entered on the data log at the AAR's computer center, hence when TRAIN has the interchange data on the car. By the end of June, 81% of the cars reported as interchanged were reported within 4 days of the time of actual interchange. Timeliness increased to 91% for reporting within 7 days, and to 95% within 10 days, reports Robert A. Petrash, executive director, Data Systems Division, AAR.

Forty-seven terminals are now reporting for 66 railroads to TRAIN. TRAIN is capable of handling all receipts and deliveries of Class I railroads in addition to receipts from Class II roads in the U.S. and includes three Canadian roads: Canadian National, CP Rail and Grand Trunk Western. Initially, Class I roads reported cars delivered in interchange and cars received in interchange from Class II roads.

● **New services, too.** Some of the recently developed or new services to be provided by TRAIN include: Car flow studies at 20 key gateways; flagging of 50-year-old cars in the TRAIN file; furnishing official and unofficial junction advices to the railroads and private car owners; and tracking of loads for individual roads. For tracking, the railroad will provide the TRAIN computer with the car initial and number and the destination road in the route. It will be tracked either to delivery to the destination road or until 30 days has elapsed.

TRAIN is now matching no bills and overbills for 22 railroads, averaging about 3 matches daily. In a recent day, TRAIN received 224 no bills, 83 overbills and completed 11 matches.

One of the quality control checks on TRAIN is called Gap Analysis. Reports to TRAIN are running over-all with about 14% gaps. A gap results when an interchange delivery occurs which is not reported to TRAIN. A transposed or incorrect car number creates three gaps. Automatic car identification will greatly reduce gaps created by incorrect reporting of car initials and numbers.

● **Network model here.** AAR's Network Model is available for use by railroads. The model is a tool to predetermine the effects on a railroad system of changes in train schedules, blocking and classification policies, traffic levels, major terminals and mainlines. Developed by industry representatives in conjunction with Midwest Research Institute, the model can be run on an IBM 360/65, Control Data 6400/6600 or Univac 1108. "The three computer configurations," says Wayne K. Minger, manager special projects, data systems, AAR, "provide flexibility for most railroads to run the model on their own computers or use a service bureau if they so desire."

A user's manual which describes how to prepare data and run the model is available, plus AAR assistance.

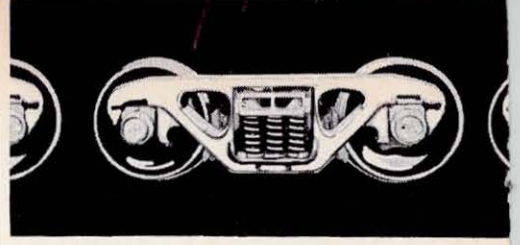
● **Model validated.** Validation of the AAR model has been performed by Chesapeake & Ohio/Baltimore & Ohio using the western region of the B&O (St. Louis, Mo.-Parkersburg, W. Va., and Cincinnati-Toledo, Ohio territories) for the test. The test model consisted of 30 nodes, 36 links, 756 main line trains, 59,000 cars originating, and 27,000 cuts (same cars, at the same origination point and time, going to the same destination). Also included were 105 daily local, interchange, and transfer runs. Train performance calculations (TPC) were used to determine over-the-road running times. The model was operated to provide for 21 days of railroad operations.

C&O/B&O found that the relationship between simulated and actual operations was around 90%. The validation model, using the C&O/B&O input data, was run by Midwest Research Institute as one of the requirements of the contract with the AAR.

● **Key is data preparation.** "Considerable data preparation is required for the AAR network model. Primarily because of the general nature of the model, more effort must be devoted to data generation and preparation than is required for specific models," says Dr. Ronald W. Drucker, assistant director research-analytical techniques, C&O.

"One advantage of the model, general though it is, is that portions of the logic can be extracted and used to solve more specific railroad problems through development of 'mini-network' models," Drucker says. ■

Circle 15 on coupon page 63 ►



Servo is the world's leading producer of electronic hot box detector systems.

We're not experts in every phase of railroad safety — but as the industry's pioneer designer and producer of electronic hot box detection systems, we can claim a high level of successful experience in working on the problems of bearing failures, axle burn-offs and derailments associated with undetected hot boxes.

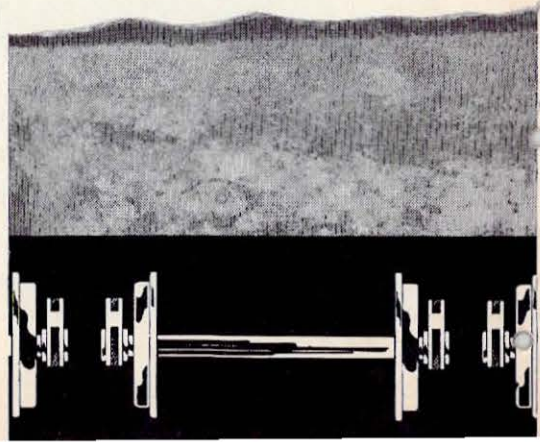
Since 1957, more than 1,600 SERVOSAFE Hot Box Detective Systems have been put into service by 54 of the world's major railroads, and have compiled an unequaled record of safety improvement, more efficient preventive maintenance procedures and cost reduction.

Hot box detectors available from Servo offer the widest flexibility in choice of system configuration, features and functional options, including: rail-mounted or ballast-mounted scanner; a complete selection of ancillary and test equipment; solid-state electronic signal processing. Several modes of data read-out are also available — automatic digital read-out at trackside or remote location; pen-paper recorder chart for visual interpretation; FM carrier data transmission over unlimited distances.

With our broad range of products and world-traveling network of field engineers, we can readily "customize" the design, manufacture, installation and operation of a SERVOSAFE system to best meet the particular requirements of your railway.

You are invited to contact us for complete descriptive literature, or to arrange a field engineering site survey and application review — without obligation, of course.

See SERVOLARM at the AAR Show Miami, Oct. 5-7



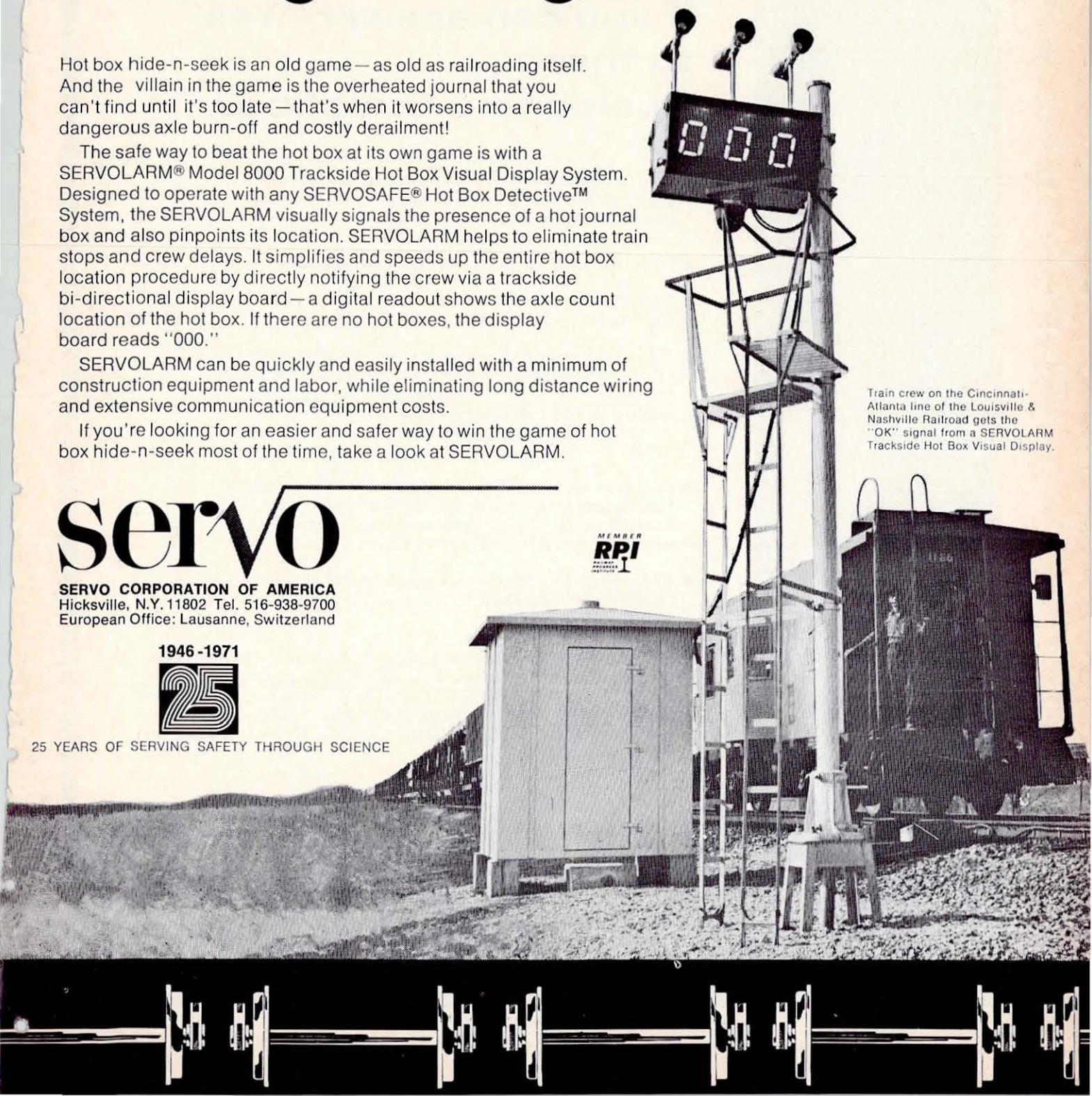
Hot box hide-n-seek. A dangerous game.

Hot box hide-n-seek is an old game — as old as railroading itself. And the villain in the game is the overheated journal that you can't find until it's too late — that's when it worsens into a really dangerous axle burn-off and costly derailment!

The safe way to beat the hot box at its own game is with a SERVOLARM® Model 8000 Trackside Hot Box Visual Display System. Designed to operate with any SERVOSAFE® Hot Box Detective™ System, the SERVOLARM visually signals the presence of a hot journal box and also pinpoints its location. SERVOLARM helps to eliminate train stops and crew delays. It simplifies and speeds up the entire hot box location procedure by directly notifying the crew via a trackside bi-directional display board — a digital readout shows the axle count location of the hot box. If there are no hot boxes, the display board reads "000."

SERVOLARM can be quickly and easily installed with a minimum of construction equipment and labor, while eliminating long distance wiring and extensive communication equipment costs.

If you're looking for an easier and safer way to win the game of hot box hide-n-seek most of the time, take a look at SERVOLARM.



Train crew on the Cincinnati-Atlanta line of the Louisville & Nashville Railroad gets the "OK" signal from a SERVOLARM Trackside Hot Box Visual Display.

servo

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25 YEARS OF SERVING SAFETY THROUGH SCIENCE

You can save $$$ 3 ways* if you can answer "Yes" to these Cushioning Questions

- Does the cushioning device you're buying come complete, ready to apply to the flange of the sill in 3 man hours, or less? ☐
- Does the hydraulic unit have only 1 moving part? ☐
- Does the sill return mechanism have a failure rate of less than 1 spring in 6,000 units? ☐
- Have application costs been added to the units' basic cost before comparing it with Keystone Shock Control to determine which is the least expensive? *(Verifying application costs with Independent Car Builders who do not have cushioning units of their own can prove beneficial to you in overall car costs.)* ☐
- Can it be repaired, if necessary, at a minimum cost without highly specialized tools and by personnel accustomed to railroad repair work instead of aircraft work? ☐
- Does the device have an excellent record for reliability and performance? ☐

Don't let "no" answers cost you added dollars in installation, maintenance and damage claims. Your KEYSTONE Representative can prove that KEYSTONE SHOCK CONTROL Single Acting Units are the most economical answer to each of the above questions and are a positive way to save dollars in (1)*installation, (2)*maintenance and (3)*operating downtime.

Call 717/761-3690 or write direct to:

KEYSTONE RAILWAY EQUIPMENT COMPANY
Simpson Ferry Road • Camp Hill, Pennsylvania 17011

Circle 16 on coupon page 63

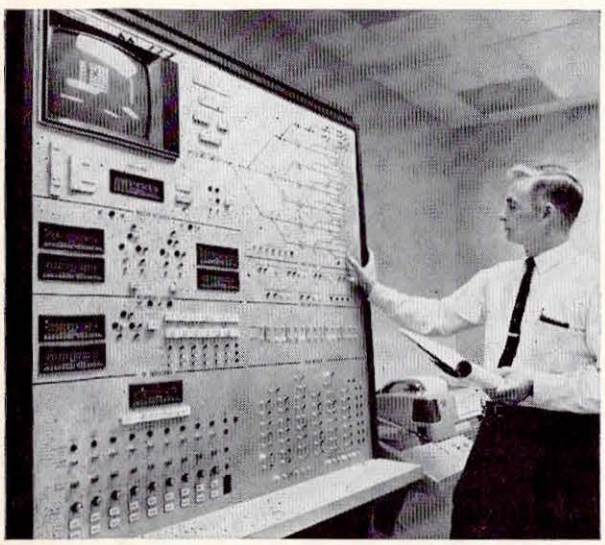
SUPERCHARGER is the new Norfolk and Western-Santa Fe run-through service linking East and West via Kansas City

Santa Fe's automatic Argentine Yard is the key to this major improvement in freight service across the Nation.

The SUPERCHARGER via Norfolk and Western uses Santa Fe tracks between Camden, Missouri and Kansas City to gain direct entry to Argentine Yard thereby cutting hours from time in interchange. Faster handling is also made possible through computerized operation of Argentine Yard and all of this results in important saving in time for transcontinental and southwestern traffic, plus improved utilization of freight cars.

Chico's expanding family of super freights includes the fast run-through operations between Penn Central and Santa Fe via Streator, Illinois, as well as coast-to-coast highball service of Seaboard Coast Line, Frisco and Santa Fe linking the East and Southeast with Northern and Southern California.

Let us give you complete facts about the SUPERCHARGER and other transcontinental schedules. Write or call Santa Fe at 62 locations throughout the Nation; each office is listed in the yellow pages of your telephone directory.



Argentine Yard control center contains the electronic systems that automatically route cars to proper tracks, control speed of couplings, record and report the number of cars on all tracks, and otherwise govern the operations of the yard.

Santa Fe—for total service
moving by rail, truck, air freight, pipeline and land development

Santa Fe

Circle 17 on coupon page 63

Second Quarter and Six Months' Figures of Calendar Year 1971

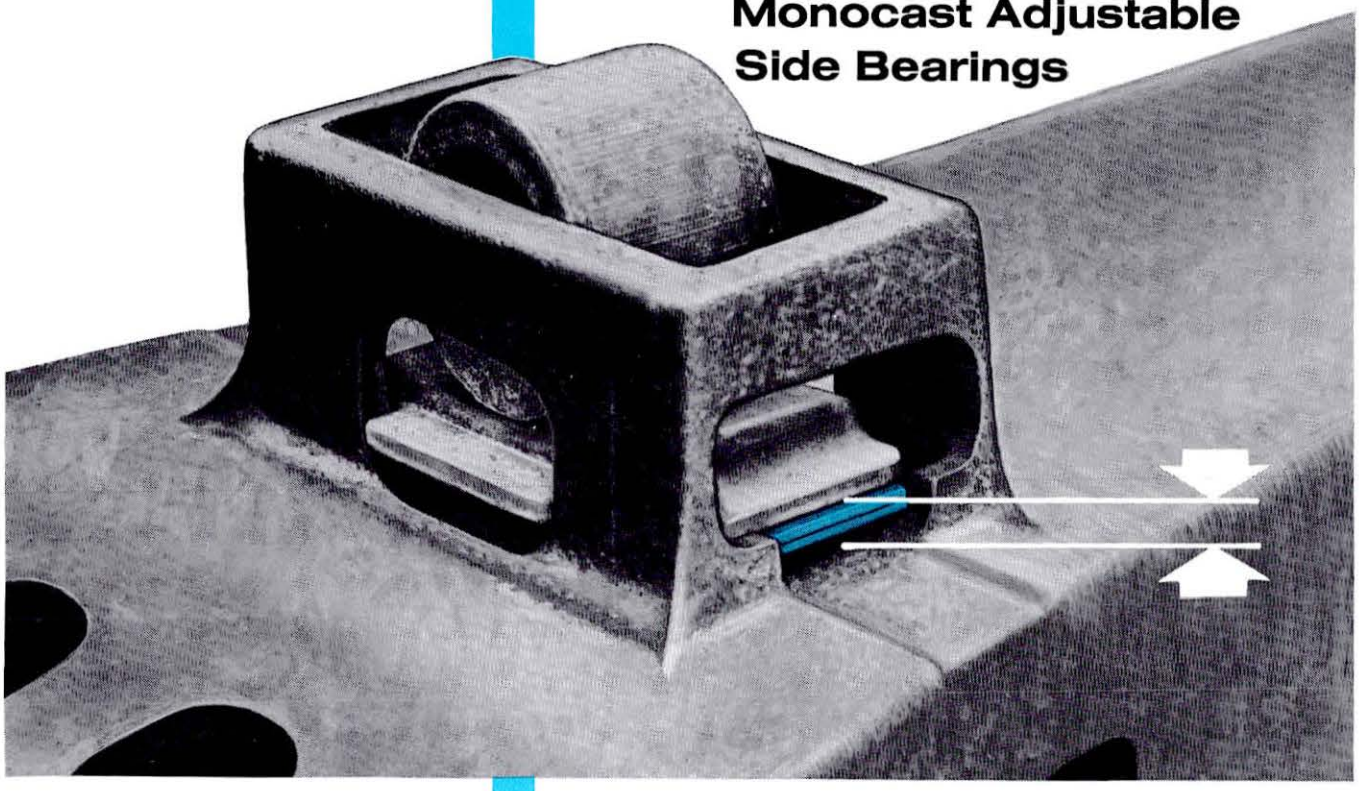
(Dollar figures are stated in thousands: i.e. with last three digits omitted)

Name of Road		Average mileage operated during period	Operating Revenues				Operating Expenses										Operating ratio		Net from railway operation	Railway tax accruals	Net Railway operating income	
			Freight	Pass.	Total (inc. misc.) 1971	Total (inc. misc.) 1970	Maint. Way and Structures Total 1971	Maint. Way and Structures Total 1970	Maint. Way and Structures Deprec. and Retirements	Maint. Equipment Total 1971	Maint. Equipment Total 1970	Maint. Equipment Deprec. and Retirements	Traffic	Transportation	Total 1971	Total 1970	1971	1970			1971	1970
Norfolk & Western	3 mos.	7,595	196,806	167	204,361	189,095	23,215	20,578	2,628	34,522	32,966	12,993	4,187	67,028	139,968	135,016	68.4	71.4	64,393	22,835	34,421	29,261
	6 mos.	7,595	385,201	422	399,052	361,661	43,263	37,304	5,193	69,327	63,375	25,920	8,234	134,551	275,406	261,333	69.0	72.3	123,646	42,802	65,323	53,530
Norfolk Southern	3 mos.	624	3,746	—	3,827	3,468	792	712	83	559	515	180	160	1,166	3,003	2,814	78.5	81.1	824	272	315	99
	6 mos.	624	7,183	—	7,342	6,498	1,414	1,272	166	1,123	988	360	322	2,263	5,737	5,222	78.1	80.4	1,605	543	605	266
Northwestern Pacific	3 mos.	323	3,223	6	3,245	2,669	701	642	71	62	226	3	24	925	1,818	1,974	56.02	74.0	1,427	201	840	—47
	6 mos.	323	5,711	12	5,749	4,834	1,582	1,532	132	163	337	6	43	1,903	3,927	3,906	68.31	80.8	1,822	429	501	—494
Oregon Electric Ry	3 mos.	186	1,657	—	1,751	1,246	251	191	20	84	30	—	6	459	831	773	47.5	62.0	919	285	238	—13
	6 mos.	186	3,017	—	3,197	2,498	501	404	46	170	79	—	12	1,008	1,755	1,589	54.9	63.6	1,441	402	241	—46
Penn Central	3 mos. est	20,119	422,632	18,633	485,019	455,425	66,491	55,739	8,248	94,367	85,932	14,893	4,668	215,576	406,095	407,853	83.7	89.6	78,924	35,132	—12,038	—45,026
	6 mos. est	20,119	796,711	48,344	928,505	858,397	127,517	109,592	15,733	192,793	164,815	30,326	9,670	437,197	818,918	794,492	88.2	92.6	109,587	74,007	—80,131	—110,822
Penn Reading Seashore Lines	3 mos.	314	1,995	23	2,240	2,297	616	538	167	257	357	33	18	1,434	2,451	2,562	109.4	111.5	—211	173	—852	—1,129
	6 mos.	314	3,796	46	4,287	4,554	1,121	1,025	233	567	717	69	37	2,909	4,870	5,055	113.6	111.0	—583	347	—1,888	—2,198
Pittsburgh & Lake Erie	3 mos.	211	10,841	15	11,674	11,023	1,567	1,369	173	3,569	3,587	1,652	178	3,827	9,792	9,708	83.9	88.1	1,882	3,669	4,249	3,467
	6 mos.	211	19,322	30	20,872	19,703	2,889	2,644	370	7,710	6,711	3,284	351	7,677	19,922	18,657	95.4	94.7	950	5,278	8,257	6,218
Reading	3 mos.	1,210	26,866	2,246	31,842	29,107	4,319	4,302	593	5,019	5,267	1,170	655	13,005	24,984	2,5118	78.5	86.3	6,858	2,725	1,936	—787
	6 mos.	1,210	50,420	4,472	60,214	55,383	8,570	8,592	1,279	10,544	10,395	2,408	1,326	25,833	50,184	50,082	83.3	90.4	10,031	5,425	—152	—3,864
Richmond, Fred. & Potomac	3 mos.	118	5,879	341	6,637	6,828	735	790	115	769	1,024	277	96	1,623	3,656	4,621	55.1	67.7	2,981	1,527	1,468	1,153
	6 mos.	118	11,241	1,132	13,462	13,570	1,505	1,439	221	1,644	1,969	579	193	3,792	8,132	9,255	60.4	68.2	5,330	2,842	2,539	2,183
St. Louis-San Francisco	3 mos.	4,761	52,131	—	54,266	46,992	7,192	5,889	633	8,480	6,430	2,474	1,722	19,794	39,953	35,499	73.6	75.5	14,313	4,703	5,800	5,188
	6 mos.	4,761	102,145	—	106,145	91,807	14,712	11,693	1,674	16,279	12,716	4,870	3,347	38,528	78,363	69,774	73.8	76.0	27,782	9,012	11,063	9,840
St. Louis Southwestern	3 mos.	1,519	38,416	—	38,844	32,556	4,082	3,107	284	6,224	5,411	2,833	801	11,630	23,575	20,958	60.7	64.4	15,269	7,872	8,312	8,308
	6 mos.	1,519	72,754	—	73,606	62,483	7,188	6,282	551	12,168	10,980	5,663	1,530	22,165	44,722	41,520	60.8	66.5	28,884	13,327	19,207	15,029
Seaboard Coast Line	3 mos.	9,208	128,665	1,697	134,438	128,808	19,151	15,840	1,460	24,093	23,898	6,131	3,186	46,062	98,504	97,408	73.3	75.6	35,933	11,781	12,968	8,792
	6 mos.	9,209	258,558	6,201	274,031	257,987	38,039	33,412	2,854	49,003	47,507	12,450	6,755	95,291	202,206	194,578	73.8	75.4	71,825	23,849	25,762	18,591
Soo Line	6 mos.	4,703	29,575	—	30,225	27,993	5,163	4,603	319	4,303	3,533	940	865	10,661	22,390	20,978	74.1	74.9	7,835	3,339	2,332	1,994
	6 mos.	4,698	58,895	—	59,060	54,135	9,248	8,335	678	8,293	7,504	1,876	1,706	21,337	43,275	41,134	73.3	76.0	15,785	6,548	4,795	3,780
Southern Railway	3 mos.	6,026	107,997	700	112,465	103,155	16,295	15,389	1,026	19,450	17,132	6,614	2,252	33,637	77,000	72,533	68.5	70.3	35,465	13,207	18,120	15,741
	6 mos.	6,026	211,688	1,442	220,749	196,983	31,631	28,181	2,335	37,789	35,549	13,176	4,396	67,548	151,273	142,162	68.5	72.2	69,476	25,761	35,699	29,275
Alabama Great Southern	3 mos.	528	11,937	82	12,420	10,288	2,060	1,483	233	2,176	1,969	792	237	3,083	8,127	7,844	65.4	76.2	4,293	1,496	2,043	1,158
	6 mos.	528	23,300	150	24,256	20,671	4,409	3,632	446	4,164	4,006	1,533	468	6,146	16,270	15,984	67.1	77.3	7,985	2,583	3,708	2,011
Cinn., New Orleans & Tex. Pac	3 mos.	415	18,426	—	19,087	14,963	2,820	1,474	227	3,677	3,077	1,461	357	4,513	12,084	9,356	63.3	62.5	7,003	2,634	4,132	3,496
	6 mos.	415	33,313	2	34,869	28,719	4,393	2,739	450	6,930	6,239	2,871	656	8,498	21,744	18,355	62.4	63.9	13,125	4,817	7,832	6,542
Georgia, Southern & Florida	3 mos.	454	4,986	—	5,184	4,217	960	673	38	484	362	122	103	1,252	3,001	2,529	57.9	60.0	2,184	259	926	531
	6 mos.	454	9,952	—	10,385	8,550	2,450	1,197	75	967	697	244	202	2,571	6,561	4,819	63.2	56.4	3,824	518	1,298	1,22[illegible]
Southern Pacific	3 mos.	11,614	266,738	1,540	273,251	243,315	34,251	28,039	2,909	49,616	41,314	15,304	4,171	98,194	201,717	184,491	73.8	75.8	71,534	27,956	31,265	22,490
	6 mos.	11,615	504,913	3,701	519,208	464,840	66,812	53,927	5,642	101,710	81,319	30,536	8,226	192,397	399,307	359,302	76.9	77.3	119,901	49,515	45,565	38,160
Texas Pacific	3 mos.	2,134	25,015	—	26,225	23,899	3,762	3,462	450	4,391	4,219	1,445	924	10,162	20,214	18,620	77.1	77.9	6,011	1,831	3,077	2,457
	6 mos.	2,134	49,578	—	52,093	45,840	7,156	6,108	776	9,181	8,145	2,854	1,749	20,043	40,086	35,255	76.9	76.9	12,007	3,651	5,860	4,734
Toledo, Peoria & Western	3 mos.	239	2,648	—	2,754	2,581	499	384	16	243	363	61	214	944	2,115	2,113	76.8	81.9	639	269	167	1[illegible]
	6 mos.	239	5,272	—	5,472	5,077	860	626	32	521	599	122	419	1,856	4,065	3,849	74.3	75.8	1,409	541	395	22[illegible]
Union Pacific	3 mos.	9,473	174,827	587	182,371	163,211	21,895	18,097	2,047	35,070	32,180	13,174	4,366	60,408	132,356	124,815	72.6	76.5	50,015	19,118	30,933	24,823
	6 mos.	9,473	338,135	2,233	354,559	319,657	42,200	35,677	3,999	69,943	63,679	26,627	8,659	121,912	266,351	246,515	75.1	77.1	88,209	37,380	53,111	44,233
Western Maryland	3 mos.	865	13,787	—	14,594	14,012	2,142	1,890	206	3,174	3,174	904	497	5,013	11,750	11,534	80.5	82.3	2,844	1,132	1,307	2,156
	6 mos.	865	26,908	—	28,550	26,899	4,203	3,740	404	6,523	6,460	1,819	984	10,121	23,657	22,932	82.9	85.3	4,893	2,236	2,516	3,748
Western Pacific	3 mos.	1,517	19,618	—	20,478	18,913	2,993	2,380	311	3,574	3,656	987	801	7,311	16,274	15,965	79.5	84.4	4,205	1,522	1,610	737
	6 mos.	1,517	36,961	1	38,713	35,141	5,895	4,975	627	7,067	7,546	1,982	1,622	14,164	31,943	32,192	82.5	91.6	6,771	3,131	1,443	—1,354

UP TO 5/8 INCH ADJUSTMENT!

BARBER

Monocast Adjustable Side Bearings



The BARBER Monocast Adjustable Side Bearing is designed for EASY, LOW COST correction of clearance variations between car bodies and truck bolsters—on new cars, or cars in service.

ECONOMICAL!

Initial cost is lowest when side bearings are ordered as integral parts of truck bolsters. Also available as separate units.

EASY ADJUSTMENT!

Full ⅝″ adjustment range can be utilized without costly removal and replacement of fasteners. Simply lift roller and roller seat enough to insert or slip out shims through bearing's end slot.

EXTRA STRONG!

Drop-forged roller and roller seat are heat treated to stand up under today's heavier loads. Available in either 3″ or heavy duty 4″ roller width. WRITE TODAY FOR SPECIFICATIONS.

"Talk to the Man from Barber"

BARBER

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CABLE: CARTRUCKS

5516

ONE IF BY LAND.

It seems so logical, now that we've done it.
For over 70 years, GATX has helped people ship bulk commodities over land.

Now, we're prepared to help them across the seas as well.
Last December, GATX acquired Marine Transport Lines. MTL. Today, we have out on charter 34 ocean-going

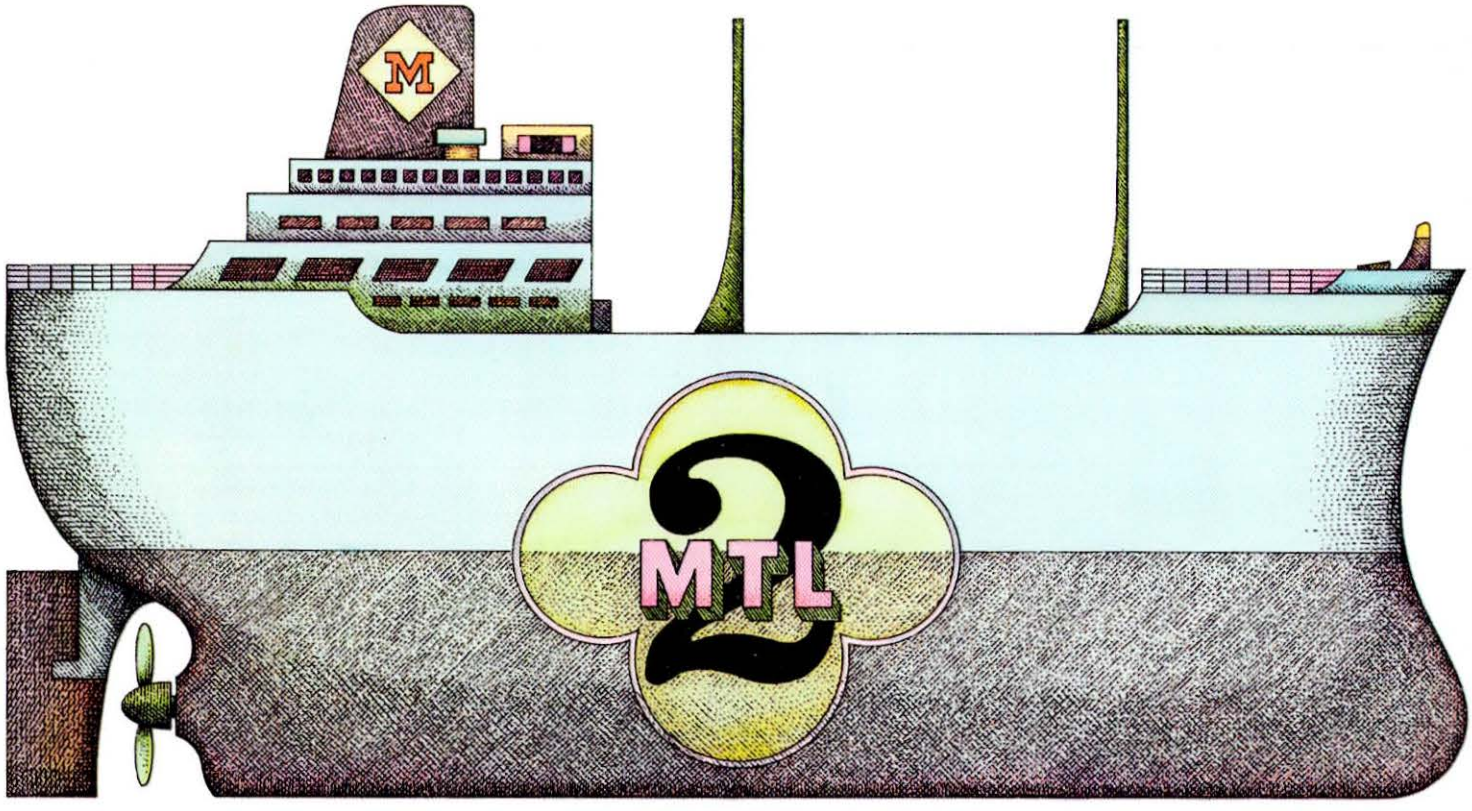
General American Transportation Corporation, Chicago 60680

TWO IF BY SEA.

vessels, some as large as 95,000 tons. And we're operating 22 other ships, for other owners.

We think it's fair to say, we've done a pretty good job on land all these years.

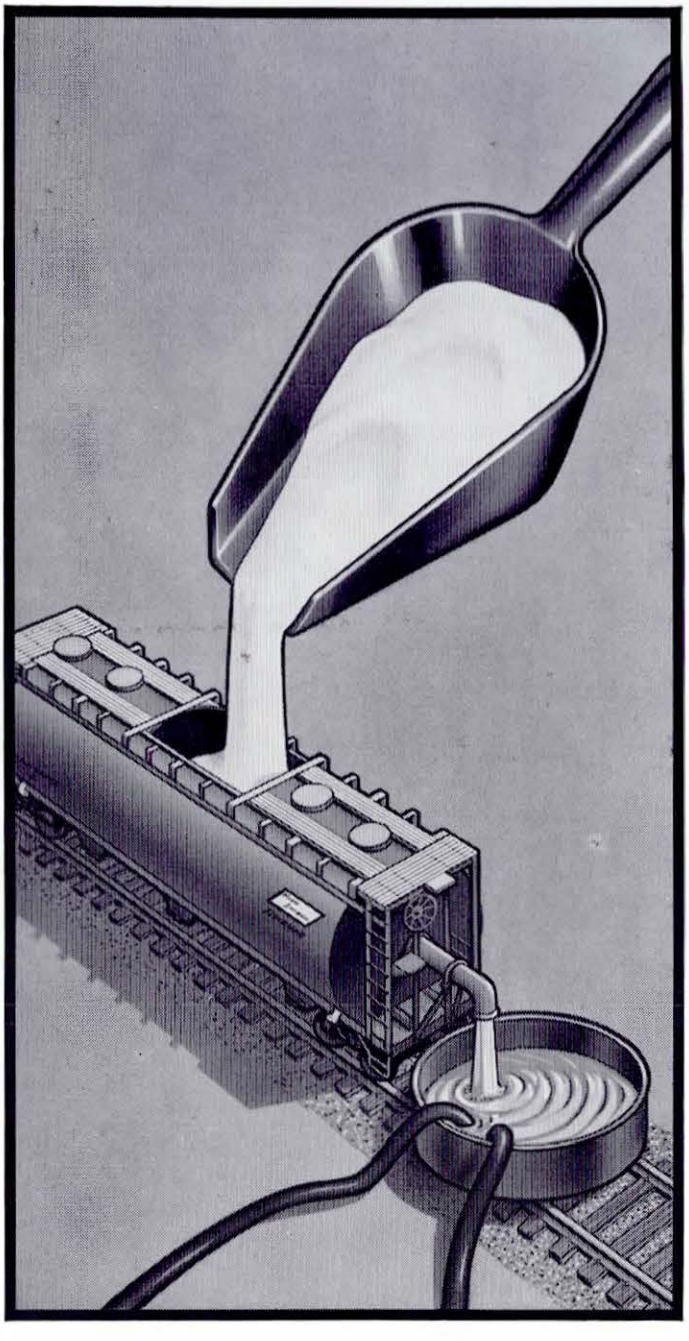
From now on, we hope you won't stop thinking of us just because you find yourself at the water's edge.



GATX

Thurston Greene & Co. finds you can ship sugar dry and unload it wet

■ *Another example of North American Car innovations that turn demanding customers into happy working partners*



■ Sugar shipped in bulk as liquid sucrose is easy to handle, but approximately ⅓ of it is water which costs as much to ship as sugar does.

Thurston Greene & Co., well-known sugar brokers, figured there must be some way to ship sugar in bulk without paying for hauling all that water around.

They put their heads together with North American Car and a large bottling company in the south. The result is a new way to ship sugar dry and unload it wet.

The new system is easy to install and operate, and pays for itself in a few months. It uses one of North American Car's Naqua-Matic Sugar Cars, a couple of inexpensive pumps, a supply of hot, edible-grade water, and a water meter at the receiver's facility.

The Naqua-Matic Sugar Car carries almost 100 tons of dry, bulk sugar in three separate, water-tight compartments. The amount of sugar loaded in each compartment is carefully weighed as it is loaded, like any other covered hopper.

At the destination, hot water is injected into the compartment in controlled amounts depending on the quantity of the sugar in the compartment and circulated until sugar is dissolved to desired solution. It is now sucrose and is unloaded just as if it had arrived by tank car or tank truck.

The buyer benefits from volume rail rates and saves substantially on the purchase of sugar in volume lots.

Innovations like this come regularly from North American Car. It's our way of turning demanding customers into happy working partners. If you have a special shipping problem, we'd like to hear from you.

North American Car Corporation, 77 South Wacker Drive, Chicago, Illinois 60606. (312) 346-0400.

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(and if we haven't got it in our fleet, we'll build it for you.)

That's absolutely right. Any kind of freight car, whether we build it or not—or whether its ever been built before. We don't limit ourselves, or you, to leasing only our own.

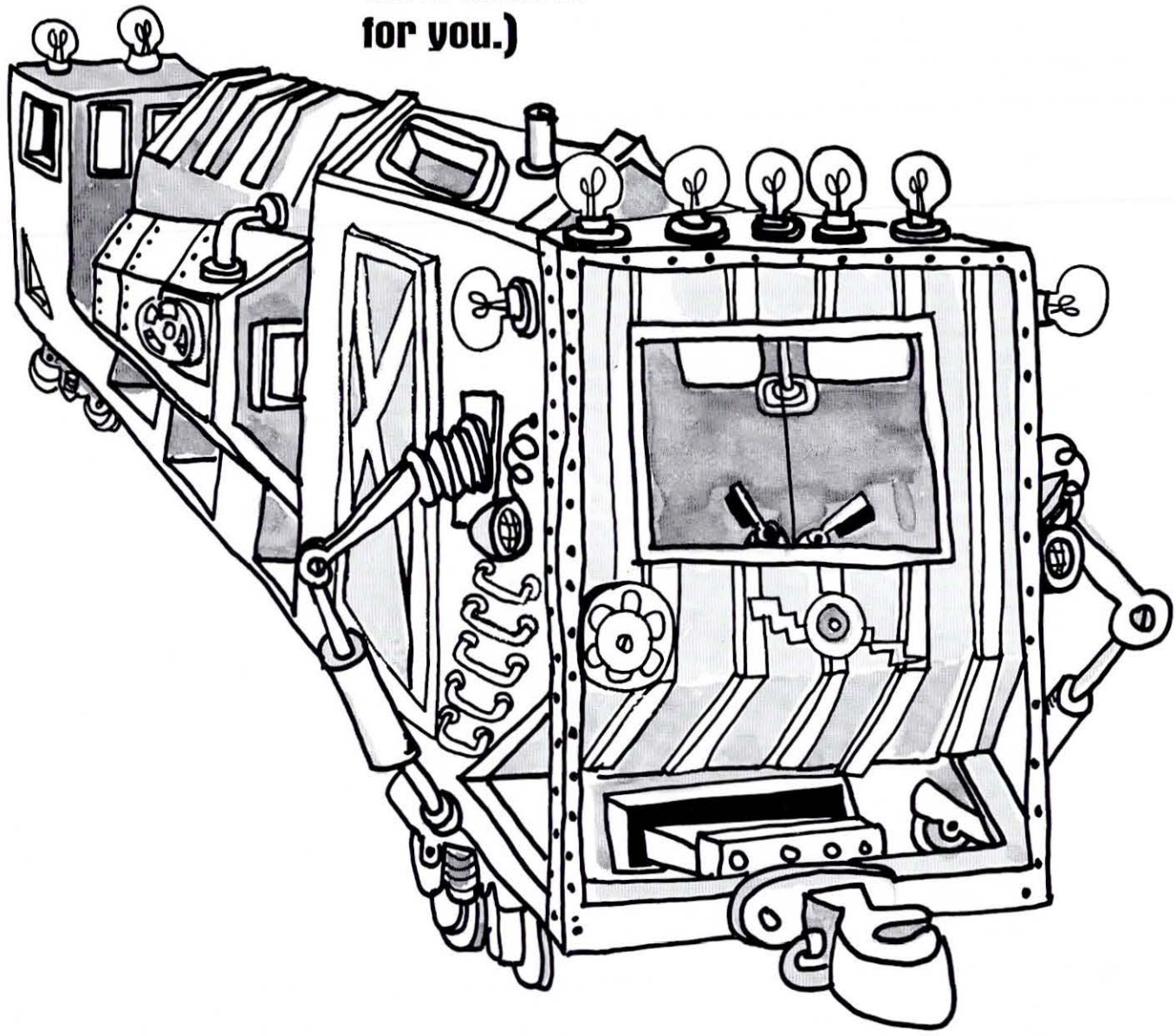
But more often than not, the special cars on hand in our fleet can handle your shipping problems. Perhaps new covered hopper cars or RBL's with interior bulkheads (our AIR-PAK® or DF-B®), cushion underframe (CUSHION-PAK®); or 16 foot double plug doors, will meet your requirements.

U.S. Railway gives you another big advantage. We can even take care of your lease cars for you if you want, right in our shops. That's something that the finance lease firms just aren't equipped to do.

And the lease arrangements we offer are as diverse as our fleet or our customer's requirements. Each is patterned to your needs.

Get our fleet rolling for you. Call our Vice President, Ralph Bell, at 312-297-3200 and tell him what you need.

He may be able to have them to you—today.



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AN Evans PRODUCTS COMPANY

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(and your car maintenance budget, too!)

The shipper is no sentimentalist when it comes to loading and unloading boxcars. His interest is emptying or filling in a hurry. The car door is incidental. But, that's your car door, and it deserves some respect. It costs a lot of money to repair it, and a whole lot more to replace it. Make it easy on the shipper. Put a Slidewell Door Control on your car door (sliding or plug type). He'll use it. No more ramming doors with forklifts, or pulverizing and bending with sledgehammers and crowbars. You'll save him time. That's exactly what he wants. So, do a good turn for your shippers and give them Slidewell wheels to turn. You'll be doing your car maintenance budget an even bigger favor. A Slidewell costs you less than one car door repair . . . and only a small percentage of replacement cost. Slidewell will put you dollars ahead, door after door after door. CALL OR WRITE HENNESSY FOR COMPLETE DETAILS

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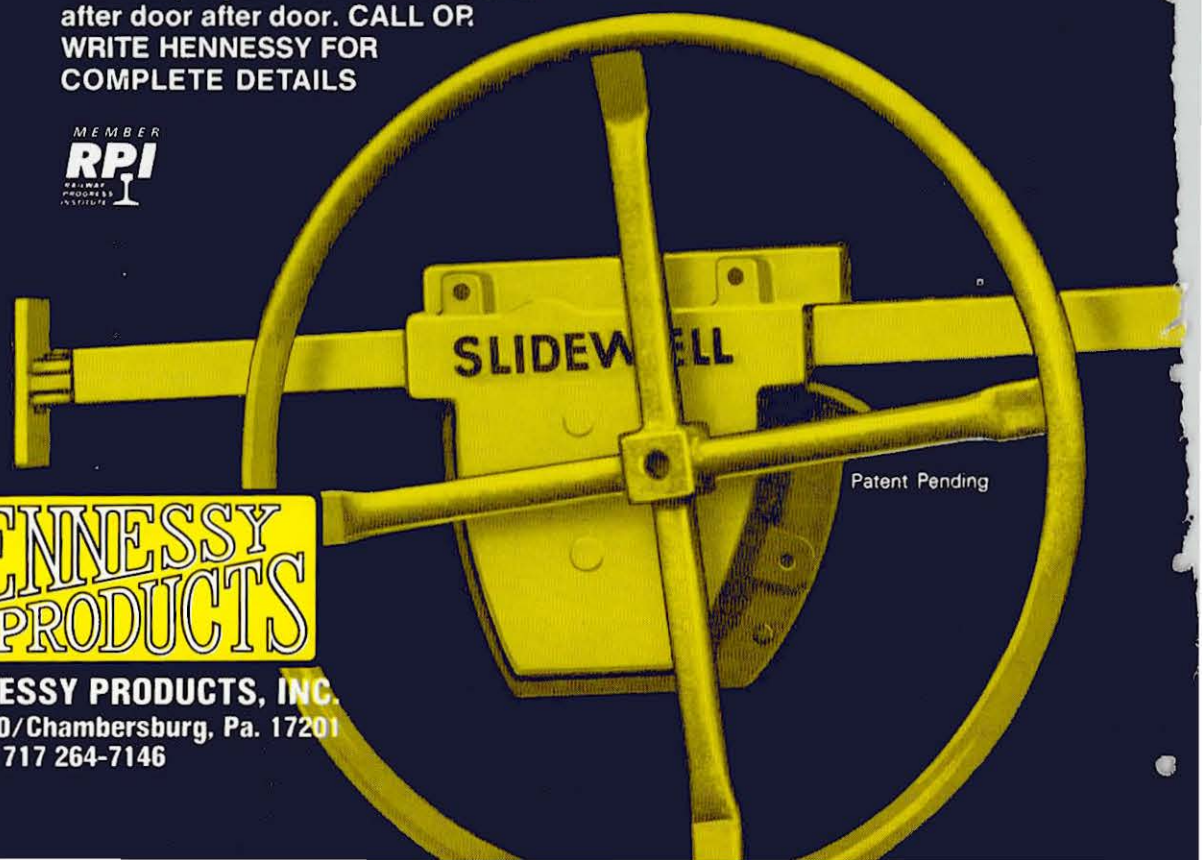

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People in the News

BELT RAILWAY OF CHICAGO.—W. J. Cassidy, controller, named assistant secretary and assistant treasurer. Mr. Cassidy's successor is **M. B. Ostrowski,** manager revenue and car accounting, who in turn is succeeded by **J. W. McGuire,** chief clerk revenue and car accounting department.

BURLINGTON NORTHERN.—J. E. Adams, Jr., assistant secretary and assistant treasurer, New York, appointed assistant secretary and director of shareholder maintenance, St. Paul.

Ralph O. Hammerstrom, superintendent, Minneapolis division, transferred to the Portland division, Portland, Ore.

Fred C. Reisse named assistant vice president-regional sales manager, eastern region, New York, succeeding **A. T. Sims,** retired. **W. J. McAllister** named area sales manager, Philadelphia, to succeed **A. M. DuPont,** on disability leave. **Etsuo Nishimiya,** regional manager, Tokyo, Japan, named director of sales there.

R. G. Annala appointed engineer systems and programs, Engineering Department, St. Paul.

CANADIAN PACIFIC.—Stanley Byars appointed to the newly created post of general manager, Europe, at London. Mr. Byars has been with CP in Europe since 1939.

J. H. Gilbert, assistant manager, systems and procedures, promoted to manager, systems and procedures, succeeding **L. G. Savage,** retired after 52 years of service.

CHESAPEAKE & OHIO-BALTIMORE & OHIO.—R. Paul Williams, director of data systems development, appointed assistant vice president-data services, Baltimore, Md.

Richard H. Priddy, superintendent, Cumberland Division, Cumberland, Md., named assistant to vice president-operations, Baltimore. **Archie W. McElvany,** manager, system operations center, Baltimore, appointed general manager car utilization. **Frederic W. Yocum, Jr.,** assistant terminal trainmaster, Baltimore, promoted to assistant to general manager car utilization.

John J. Ohorodnik has been appointed assistant general manager, Northern Region, Detroit. He was formerly general manager-superintendent, New York Terminal, C&O/B&O, and the **Staten Island Rapid Transit Railway.**

A. F. Haller, district sales manager, C&O, Detroit, retired Sept. 1, after more than 44 years of service.

CHICAGO SOUTH SHORE & SOUTH BEND.—Michael J. Heinen, assistant traffic manager, advanced to freight traffic manager, effective Oct. 1, to succeed **W. F. Sachen,** who retires.

ERIE LACKAWANNA.—Charles W. Hammond, general freight agent, Hoboken, N.J., named assistant freight traffic manager there. **John A. Sees** appointed assistant general freight agent, succeeding **Lawrence W. Foley,** promoted to general freight agent.

GULF, MOBILE & OHIO.—W. O. Hafner appointed assistant general rate manager, and **N. E. Ard,** manager commerce cases. Mobile, Ala.

ILLINOIS CENTRAL.—Brian W. Burhoe and **Edward E. Simmons,** labor relations officers, named managers of labor relations. **Robert G. Richter,** labor relations staff officer, appointed labor relations officer.

LAKE TERMINAL.—Raymond G. Wintrich, assistant to vice president, Pittsburgh, Pa., retired Aug. 31, after more than 45 years of service.

LEHIGH VALLEY.—Dominick J. Pace, superintendent car department, named superintendent car maintenance and design, Sayre, Pa.

Clarence M. Troutman named master mechanic, New York Division, at Oak Island, N. J. Mr. Troutman was formerly general foreman, **Penn Central,** Perth Amboy, N. J.

MILWAUKEE.—G. P. Frazier, assistant electrical engineer, named electrical engineer, Tacoma, Wash., to succeed **T. B. Kirk,** retired.

MISSOURI PACIFIC.—Downing B. Jenks, president, also elected chairman of the board. **James M. Kemper, Jr.,** a director, elected chairman of the executive committee. They succeed the late **William G. Marbury,** who held both positions.

NATIONAL MEDIATION BOARD.—Peter C. Benedict appointed a member, effective August 9, with headquarters at Washington, D. C.

NORFOLK & WESTERN.—Robert A. Kipley appointed purchasing agent maintenance of way/signals and communications, succeeding **Clarence N. Ferguson,** retired. **D. Norman Henson** appointed purchasing agent-diesel, succeeding **Charles E. Woodson,** retired. **David H. Moore,** buyer, succeeds Mr. Henson.

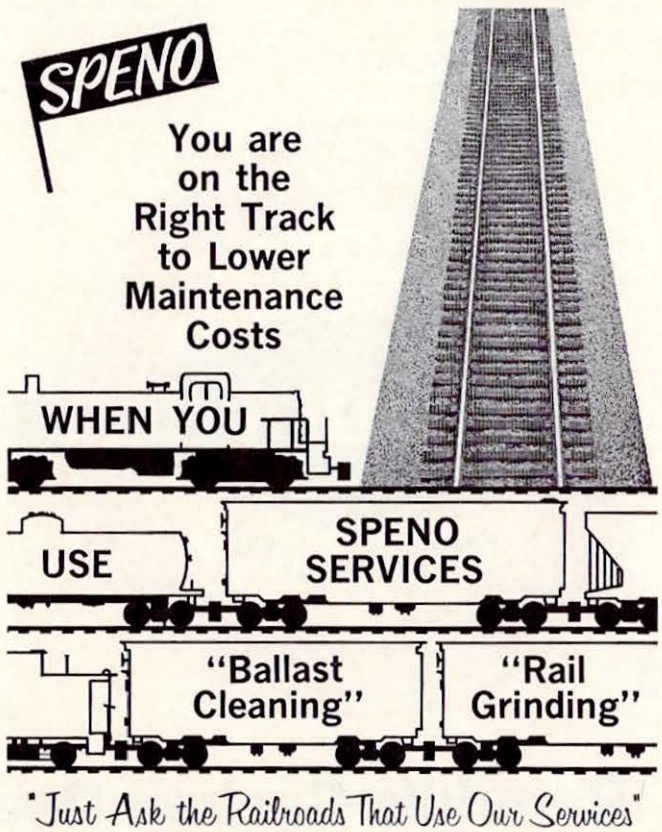
William F. Mason, Jr. appointed tax attorney.

READING.—William F. Reynolds, regional superintendent of police, **Chesapeake & Ohio/Baltimore & Ohio,** Pittsburgh, named superintendent of police and security, **Reading,** Philadelphia, succeeding the late **Donald Thomsen.**

RICHMOND, FREDERICKSBURG & POTOMAC.—Charles A. Hartz, Jr., appointed attorney, Richmond, Va.

ROCK ISLAND.—Clayton W. Denton, manager-personnel administration, named director of insurance, to succeed **Kenneth W. Barbian,** resigned.

(Continued on page 51)



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Circle 24 on coupon page 63

LETTERS

Piggyback service

Boston, Mass.

To the Editor:

It is obvious that Mr. White [Letters, RA, July 26, p. 42] has not checked on the piggyback service offered by some of the railroads. My company receives excellent, consistent service from the Penn Central between Boston and Chicago, St. Louis and Louisville. The service between Memphis and Los Angeles is also consistently good.

Apparently the truck lines do not want to get into bed with the railroads, so they simply cry "poor service."

E. J. Wright, Jr.
Traffic Manager
American Biltrite Rubber Co., Inc.

Loss and damage

Peoria, Illinois

To the Editor:

Many thousands of words have been written on the problem of the tremendous losses due to damage in railroad cars. Yet, this problem continues to grow.

The first of this week a carload of cleaning compounds arrived at our warehouse all the way from New England without a single damaged case. This may not seem too surprising, however, as this was a plain 50-foot box car.

This is a perfect example of just what can be done if EVERYONE involved really tries. We are notifying the shipper and the railroads involved. In my opinion the major cause of damage (outside of wrecks) is due to high-speed impacts during switching at junctions and at origin and destination yards.

I feel your publication is a valuable tool in my work. Also, I enjoy the articles not specifically related to my job.

D. B. Throckmorton
Traffic Manager
Federal Warehouse Company

Industrial development

Washington, D.C.

To the Editor:

The article in Railway Age ("Everybody on the Southern is an ID man," Aug. 30, p. 24) was certainly one of the best written ones I have had the pleasure of reading on industrial development, and we are all appreciative of your interest.

The railroads in general, having long been the prime promoters of industrial development because of its value to the sections they serve, are indebted to you.

J. L. Townshend
General Manager
Industrial Development Department
Southern

RAIL—WATER—EXPORT AND DOMESTIC SHIPPERS OF...

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SUBSIDIARY OF AMAX AMERICAN METAL CLIMAX, INC.

Circle 25 on coupon page 63

(*Continued from page 49*)

Abe H. Baker, personnel officer, named manager of personnel administration, Chicago.

SANTA FE.—C. C. Glover, assistant director of purchases and materials, Topeka, Kans., appointed director of purchases and materials there, to succeed the late **J. E. Eisemann.**

SOUTHERN.—Joel T. Gheesling, Jr., sales manager, furniture industries, Winston-Salem, N.C., appointed sales manager, furniture and appliance industries, a new position.

SOUTHERN PACIFIC.—Norman F. Stieglitz, Jr. named engineer of appropriations, San Francisco, to succeed **David I. Pugh,** who retired July 31 after more than 27 years' service.

Robert C. Hudson, general freight traffic manager-rates and divisions, named general traffic manager system, with primary responsibility for rates and divisions. His headquarters are in San Francisco.

Leo M. Brown, assistant manager of real estate, Los Angeles, appointed district manager of real estate there, to succeed **W. W. Steiner,** named senior coordinator-land development, **Southern Pacific Land Co. W. E. Christensen,** land agent, San Francisco, succeeds Mr. Brown.

E. W. Buckles named general superintendent maintenance of way equipment and scales, Houston, succeeding **R. A. Hostetter,** who retired July 30 after more than 40 years' service.

S. K. Edwards, supervisor of photography, retired recently after 49 years' service.

TORONTO, HAMILTON & BUFFALO.—D. H. Dillon appointed district freight agent, Port Colborne, Ontario, Canada, succeeding **H. A. Calder,** retired after 54 years of service.

WESTERN TRUNK/TRANS-CONTINENTAL JOINT FREIGHT TRAFFIC BUREAU.—Robert H. Lindsay appointed tariff publishing officer, to succeed **Fred Ofcky,** retired. Mr. Lindsay will also continue to direct operations of the **Data Services Division, Western Railroad Assn.**

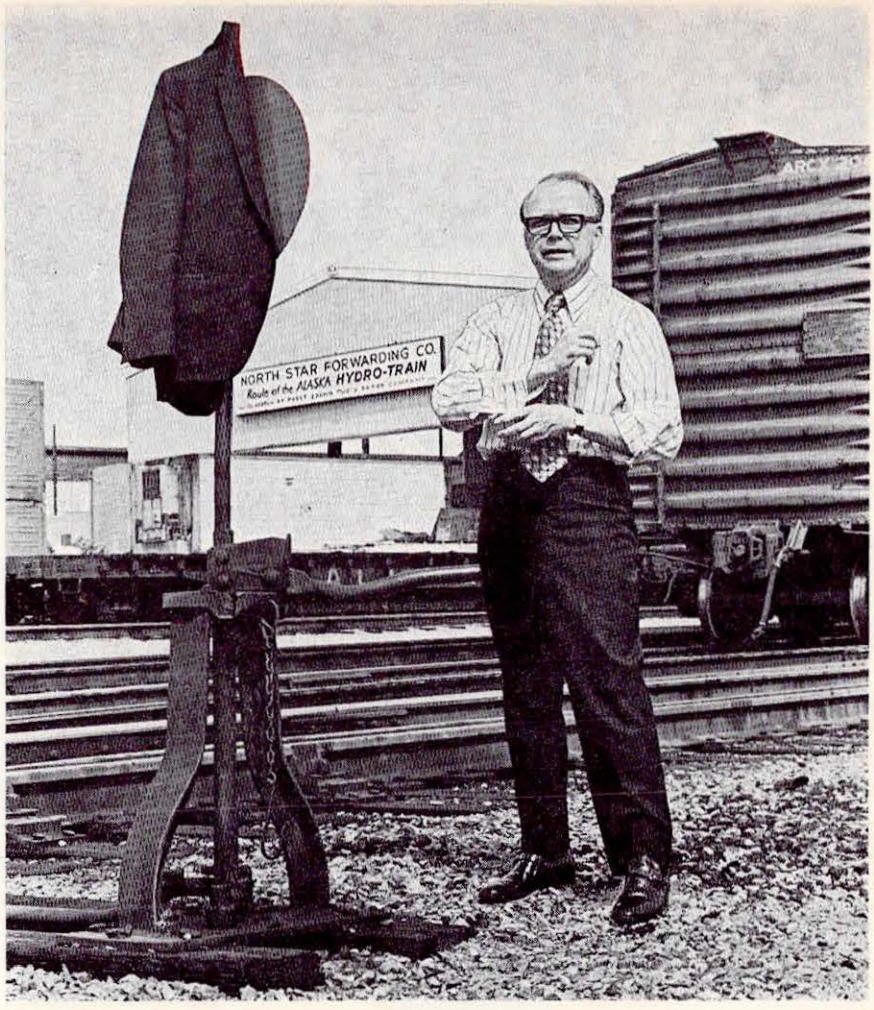
INDUSTRIAL TRAFFIC

Robert P. Post, general traffic manager, **Cargill, Inc.,** Minneapolis, Minn., has been promoted to assistant vice president—transportation.

Corporate traffic offices of **General Electric Co.** were relocated at 1285 Boston Avenue, Bridgeport, Conn. 06602, on Sept. 13. The offices were formery at 570 Lexington Avenue, New York.

Horace W. Shoemaker, manager of tank truck traffic, **Mobil Oil Corp.,** has been appointed assistant general traffic manager, North American Division Traffic Department, New York.

Harold A. Thurston, assistant insurance manager, **Consolidation Coal Co.,** Morgantown, W.Va., has been promoted to distribution manager.



After 24 years in transportation Cloyd De Lay still rolls up his sleeves to switch the freight straight through

Cloyd De Lay has been in the transportation business for nearly a quarter of a century. Now he is General Manager of the Alaska Hydro-Train, a roll-on/roll-off rail car freight service from Seattle to Alaska. The Hydro-Train can handle all kinds of cars — flat, box, reefer, tank, and tri-levels.

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A Crowley Company

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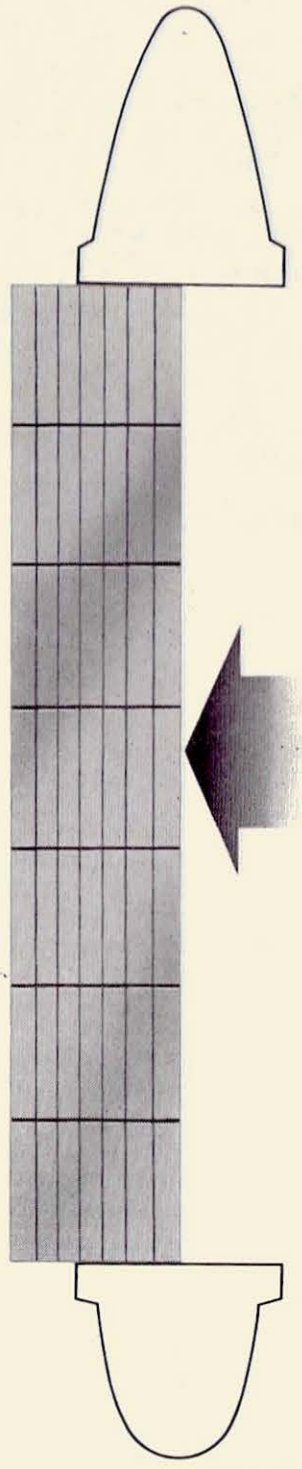
Asia. We'll ship it off for you in October.



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Between your USA-Canada door and any door in Korea-Hongkong-Taiwan. But bypassing Japan.

You will save 5 days or more that way. Plus to ship whatever you've got, we've got a variety of 40 foot "K̈ontainers. Dry, refrigerated, insulated and more. With air-cushioned wheels waiting at dockside. To whisk your goods door-to-door.

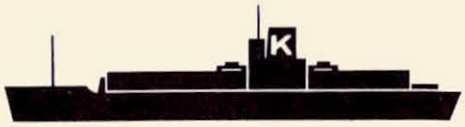
By truck, ship (scheduled to sail every two weeks) and railway.

You'll get extra safety, speed and economy all the way.

Ask for our free Pacific South East Asia "K̈ontainer door-to-door estimate.

We'll ship it off for you.

Now!



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Circle 27 on coupon page 63

SUPPLY TRADE

Raymond E. Deasy has been appointed director of sales and marketing, **Western-Cullen Division, Federal Sign & Signal Corp.**

Donald E. Fitzsimmons has been appointed district sales manager, Railroad Division, **Brenco Incorporated,** at San Francisco.

Robert E. McIlvane, vice president—sales, and vice president, Communications and Electronics Division, **Anaconda Wire & Cable Co.,** has been appointed executive vice president—sales, New York.

Norman A. Lorimer, general manager of sales, marketing and services, Magnet Wire Division, appointed manager, Communications Division, and will direct manufacturing, sales and engineering activities.

Frank J. Hungelmann, group manager, Automotive Division, **Timken Co.,** Canton, Ohio, has been promoted to manager, sales promotion, Railroad Division.

Neal Nunnelly has been appointed to the newly created position of vice president and general manager in Europe, Container Division, **Seatrain Lines, Inc.,** at Rotterdam.

George W. Welsh has been appointed vice president and general manager of the newly formed **Clevite Engine Parts division, Gould Inc.,** at Cleveland. The new division is a consolidation of the Engine Parts division and the Clevite Bearing division. Mr. Welsh was formerly general manager, Engine Parts division, St. Paul.

Raymond E. Deasy
Western-Cullen

D. E. Fitzsimmons
Brenco

Robert E. McIlvane
Anaconda

F. J. Hungelmann
Timken

Torq Engineered Products, Inc., Bedford, Ohio, has acquired **PPM, Inc.,** of Cleveland. **Arthur L. Bletcher,** founder of PPM, continues with Torq as vice president of the subsidiary.

Norman H. Galla has been appointed industrial relations manager, Barco Division, **Aeroquip Corp.,** Barrington, Ill. Mr. Galla was formerly an industrial relations executive with Libby-McNeil & Libby.

Stephen A. Combs has been appointed manager of marketing, **Lord Manufacturing Co.,** division of **Lord Corp.,** Erie, Pa. He was formerly production manager.

Robert F. Gillespie has been appointed manager of the Atlanta Geographic Trailer Pool, **REALCO Services, Inc.** He was formerly administrative manager, Southern Region, Atlanta.

J. F. O'Hara has been elected vice president and general manager, **Transco Railcar Division, Transco Inc.**

James E. Noel has been appointed manager—transportation renewal parts operation, **General Electric Co.** The operation is in the process of moving into an ultra-modern warehouse and distribution facility in Erie, Pa., and is also expanding its regional parts centers in Erie, Atlanta, St. Louis, Minneapolis and Los Angeles.

William F. Bowers has been appointed transportation consultant at the new Mono-

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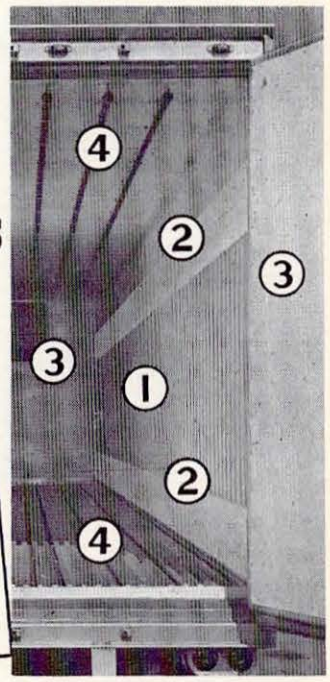

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Circle 29 on coupon page 63

REPÚBLICA FEDERATIVA DO BRASIL
GOVERNO FEDERAL—MINISTÉRIO DOS TRANSPORTES
REDE FERROVIÁRIA FEDERAL SOCIEDADE ANONIMA

INTERNATIONAL BID FOR THE ACQUISITION OF 14 CABOOSE CARS RAILWAY GAUGE OF 1.60 METERS.

PUBLIC BIDDING NO. 06/71

RÊDE FERROVIÁRIA FEDERAL SOCIEDADE ANÔNIMA, joint-incorporated company, linked to the Ministry for Transport of the Federal Republic of Brazil, located at Praca Duque de Caxias, 86—Rio de Janeiro—State of Guanabara, Brazil, makes public to whom it may concern that it will realize an international bid, according to the Brazilian law, to acquire 14 Caboose Cars, railway gauge of 1.60 meters, specification SPE/DM-02R/71—1st revision, inscriptions of bidders are open to local and foreign specialized companies, located in countries member of the International Bank for Reconstruction and Development (IBRD) or in Switzerland.

2—RÊDE FERROVIÁRIA FEDERAL SOCIEDADE ANÔNIMA has requested a loan to the International Bank for Reconstruction and Development (IBRD) presently in conclusive studies, that will be used in the payment of the contracts, resulting from this bid.

3—The interested parties can obtain specifications and general conditions, corresponding to this bid, as well as other information at the following place:

Rêde Ferroviária Federal S/A.
Praca Duque de Caxias, 86-3o andar S/307
Rio de Janeiro—Estado da Guanabara

4—The bids will be received by the Judging Committee, at 15.00 PM, November 29, 1971—Edifício Sede da Rêde Ferroviária Federal S/A., located at Praca Duque de Caxias, 86-30 andar, Rio de Janeiro.

5—The winners of the bid will sign a contract with Rêde Ferroviária Federal S/A.

Rio de Janeiro, BRAZIL
July 13, 1971
OCTAVIO AZEVEDO DE SOUZA
Engineer
Superintendent of the Material

PROTECTING RAILROAD CARGO SINCE 1897

Being oldest is one thing. Being best is something else. Tyden is both – as more than 90% of North America's railroads testify by their exclusive use of the Tyden Seal. Should you be among the few who haven't gotten the word, please write today for free samples and details. We're not too old to move fast.

THE TYDEN SEAL COMPANY
Division of The Viking Corporation ☐ Hastings, Michigan 49058

Circle 30 on coupon page 63

rail Division of **WABCO,** Wildwood, N. J., reporting to **William J. Walker,** manager of markets and engineering.

Raymond F. Sweeney has been named vice president of **Thomas K. Dyer, Inc.,** consulting engineers, Lexington, Mass. Mr. Sweeney was previously associated with the Engineering and Real Estate Departments, **Boston & Maine,** for 28 years. **Richard B. Whalen** has joined Thomas K. Dyer as a signal engineer. Mr. Whalen has been associated with the B&M Signal & Communications Department for the past 20 years.

George P. Millington has been elected a vice president in charge of the Battery group, **Gould Inc.,** St. Paul. Mr. Millington was formerly vice president and general manager, Industrial Battery division, Trenton, N. J.

Charles S. Johnston, chairman of the board of directors, **Transco Inc.,** has retired. He will continue to serve as a member of the board of directors.

Parker Wellington, assistant comptroller, **Pullman-Standard Division** of **Pullman Incorporated,** has been appointed executive assistant to the president. **James C. Pontious** has been named to the newly created position of assistant to the president, Washington, D.C. Mr. Pontious, who was formerly manager of transit marketing at Chicago, will represent the division before various departments of the Federal government and rail industry trade associations headquartered in Washington.

C.F. Hammond, III, manager-railroad and marine sales, **Great Dane Trailers,** Savannah, Ga., has been appointed assistant vice president in charge of distributor and railroad sales.

Durox Equipment Co. has been appointed distributor for railroad products of the **Fram Corp.,** General Products Division, Henderson, N.C.

The Bendix Corp., Southfield, Mich., has acquired substantially all of the assets of the **Dashaveyor Co.,** Los Angeles. Dashaveyor will be operated as a wholly-owned subsidiary of Bendix and will be a unit of the Aerospace-Electronics Group. **Stanley Dashew,** former president of Dashaveyor will serve as a consultant, and **James A. Burns,** former assistant director of transportation systems, Bendix Aerospace Systems Division, Ann Arbor, Mich., will become general manager of Dashaveyor.

OBITUARIES

Henry W. Coffman, 72, retired industrial development manager, **Pennsylvania,** died Sept. 7 in Hinsdale Hospital, Hinsdale, Ill.

Dr. Raymond Householder, 75, chief surgeon, **Milwaukee,** died Aug. 25 in Wesley Memorial Hospital, Chicago.

L. Gordon Huffines, 44, former editor of **International Railway Journal,** a **Sim-**

Q. When is Columbus Day?

A. Any day you have a consignment for Australia or New Zealand.

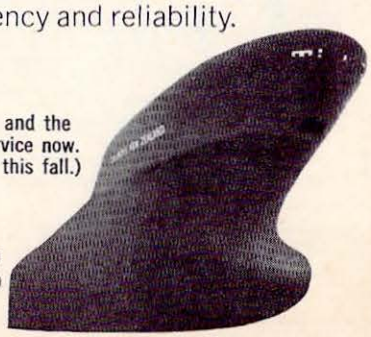
And the Columbus New Zealand, the Columbus Australia, the Columbus America are the reasons why. These three great sister ships will provide you with the first all-modern, all-container service between the United States, Canada and Australia/New Zealand.

But that's only part of the Columbus story.

We've taken our new ships, our new on-board equipment, our new shore facilities—our whole operation, in fact—and developed a completely integrated shipping system. Its purpose? To produce consistently superior shipping for you—to give you that combination of speed, reliability, safety, economy and convenience you need to stay competitive.

Yes, we designed our new ships—and our new service—just for you. The shipper. To give you the very best in service. Discover Columbus. Discover our new world of shipping efficiency and reliability.

(The Columbus New Zealand and the Columbus Australia are in service now. The Columbus America is due this fall.)



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Golf Digest

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December 31, 1971.

$162* Slightly higher during October.
7 days, 6 nights. Or $85.50* for 4 days, 3 nights.

Special low rates for children. Per person double occupancy incl. room, breakfasts, dinners, gratuities, unlimited free tennis, golf, swimming, pier fishing, lawn sports, nightly dinner dancing. Junior hostess for children.
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mons-Boardman publication, died of a heart attack in Los Angeles, Calif. Before joining Simmons-Boardman, Mr. Huffines served as editor of **Railway Progress.** He subsequently worked with the public relations department of the **Chesapeake & Ohio** in Cleveland, and had recently been engaged in public relations work in California.

Earl J. Hyett, 81, retired freight traffic manager, **Milwaukee,** died Aug. 21 at his home in Charleston, Ill.

Eugene S. Root, 71, retired vice president-comptroller, **Erie Lackawanna,** died Sept. 2 at Shaker Heights, Ohio.

James T. Rudd, retired chief chemist, **Rock Island,** died Aug. 21 in Oak Forest Ill.

John E. Slaven, 75, retired superintendent of safety, **Burlington,** died Sept. 7 in Berwyn, Ill.

Robert O. Small, 82, retired director and vice president in charge of traffic, **Chicago & North Western,** died Sept. 11 in Evanston Hospital, Evanston, Ill.

Ralph C. Tasker, 65, retired superintendent of transportation, **New York Central,** Chicago, died Sept. 8 in Clearwater, Fla.

CALENDAR

The next regular meeting of the **National Railroad Piggyback Association** will be held Oct. 27-28 in the Hilton Hotel, Omaha, Neb.

The **Transportation Data Coordinating Committee** has announced plans for its National Forum, to be held Nov. 1-2 in the Presidential Ballroom of the Statler Hilton Hotel, Washington, D.C. Theme of the forum will be "Transportation—computer based data exchange systems." There will be a special exhibit of computer and communication hardware and software systems to serve the transportation community.

The **National Defense Transportation Association's** 26th annual transportation and logistics forum and exposition is scheduled for Oct. 3-6 at the Radisson Hotel, Minneapolis, Minn.

The 1972 National Transportation Institute of the **Transportation Association of America** will be held Feb. 1-2, 1972, in the Hotel Americana, New York, N.Y. The one-and-one-half-day event will feature a Feb. 1 afternoon panel session on "Moving people in metropolitan areas"; a Feb. 2 morning session on "Transport technological developments"; and an afternoon session on "Current transport legislative issues."

REPÚBLICA FEDERATIVA DO BRASIL
GOVERNO FEDERAL—MINISTÉRIO DOS TRANSPORTES
REDE FERROVIÁRIA FEDERAL SOCIEDADE ANONIMA

INTERNATIONAL BID FOR THE ACQUISITION OF 1.320 GONDOLA-CARS TO OPERATE IN "CAR-DUMPER" WITH CAPACITY OF 95.000 Kg. AND RAILWAY GAUGE OF 1.60 METERS.

PUBLIC BIDDING NO. 05/71

RÊDE FERROVIÁRIA FEDERAL SOCIEDADE ANÔNIMA, joint-incorporated company, linked to the Ministry for Transport of the Federal Republic of Brazil, located at Praca Duque de Caxias, 86—Rio de Janeiro—State of Guanabara, Brazil, makes public to whom it may concern that it will realize an international bid, according to the Brazilian law, to acquire 1.320 "Gondola-Cars" to operate in "Car-Dumper", with a capacity of 95.000 Kg., railway gauge of 1.60 meters, specification SPE/DM-03/70—1st revision in 1971, inscriptions of bidders are open to local and foreign specialized companies, located in countries member of the international Bank for Reconstruction and Development (IBRD) or in Switzerland.

2—RÊDE FERROVIÁRIA FEDERAL SOCIEDADE ANÔNIMA has requested a loan to the International Bank for Reconstruction and Development (IBRD) presently in conclusive studies, that will be used in the payment of the contracts, resulting from this bid.

3—The interested parties can obtain specifications and general conditions, corresponding to this bid, as well as other information at the following place:

Rêde Ferroviária Federal S/A.
Praca Duque de Caxias, 86-3o andar S/307
Rio de Janeiro—Estado da Guanabara

4—The bids will be received by the Judging Committee, at 15.00 PM, November 22, 1971—Edifício Sede da Rêde Ferroviária Federal S/A., located at Praca Duque de Caxias, 86-30 andar, Rio de Janeiro.

5—The winners of the bid will sign a contract with Rêde Ferroviária Federal S/A.

Rio de Janeiro, BRAZIL
July 13, 1971
OCTAVIO AZEVEDO DE SOUZA
Engineer
Superintendent of the Material

Market Outlook

CARLOADINGS

Loadings of revenue freight in the week ended Sept. 11—which included the Labor Day holiday—totaled 440,367 cars, according to the Association of American Railroads. This was a decrease of 86,169 cars, or 16.4%, compared with the previous week, and a decrease of 45,960 cars, or 9.5% compared with the corresponding week last year. Ton-miles generated by carloadings in the week ended Sept. 11 are estimated at 12.6 billion, a decrease of 6.2% below the corresponding week of 1970.

REVENUE FREIGHT CARLOADINGS

Commodity	Sept. 11 week	Sept. 4 week
Grain	17,507	24,574
Farm products	8,502	10,401
Metallic ores	37,714	42,992
Coal	88,759	110,098
Crushed stone, gravel & sand	26,174	29,630
Nonmetallic minerals	9,086	9,962
Grain mill products	17,024	19,948
Food & kindred products	21,936	24,972
Primary forest products	20,816	24,284
Lumber & wood products (except furniture)	13,395	15,786
Pulp, paper & allied products	18,533	23,547
Chemicals & allied products	22,054	25,610
Petroleum products	8,244	9,381
Stone, clay & glass products	17,841	20,577
Coke	5,894	5,858
Metals & products	15,121	18,182
Motor vehicles & equipment	19,559	23,324
Waste & scrap materials	10,987	12,803
Forwarder & shipper assn. traffic	5,643	6,955
All other carloads	55,135	66,592
LCL traffic	443	548
Total cars loaded	440,367	526,024

CUMULATIVE TOTAL, 37 weeks	1971	1970	1969
	18,312,237	19,345,454	19,803,286
Estimated revenue ton-miles (billions) 37 weeks	530.1	542.5	538.4

PIGGYBACK LOADINGS

U.S. piggyback loadings for the week ended Sept. 4 totaled 25,455 cars (0.5% below the corresponding week last year) and 42,983 trailers or containers (up 2.3% from 1970). Cumulative volume for the first 36 weeks of 1971 is 812,166 cars (off 7.1% from last year) and 1,325,002 trailers or containers (down 6.1% from 1970). In addition to freight, 2,932 cars carrying 4,555 trailers or containers of mail and express traffic were handled piggyback. Cumulative figures for the first 36 weeks of 1971 are 109,740 cars (down 11.7% from the 1970 total, and 165,221 trailers or containers (down 13.6% from 1970).

IN CANADA

10-days ending	Revenue Cars Loaded	Cumulative Totals
Aug. 31, 1971	106,739	2,543,396
Aug. 31, 1970	102,784	2,530,624

FREIGHT-TRAIN CARS

● *Serviceable cars.*—Revenue freight cars in serviceable condition owned by Class I railroads on Aug. 1 totaled 1,352,041, compared with 1,351,868 on Aug. 1, 1970, according to most recent AAR Car Service Division report. Estimated total ownership of all railroad- and privately-owned freight cars on Aug. 1 (see table below), was 1,770,599 (average capacity: 67.82 tons), compared with 1,788,911 (average capacity: 66.63 tons), on Aug. 1, 1970.

ESTIMATED OWNERSHIP—ALL REVENUE FREIGHT CARS

(Aug. 1, 1971 vs. Aug. 1, 1970)

		Box	Covered Hopper	Gondola	Hopper	Flat	Refg.	All Other	TOTAL
Class I	1971	529,229	135,436	185,335	389,840	75,576	65,250	49,105	1,429,681
	1970	542,683	129,398	190,273	391,717	72,183	55,099	51,355	1,432,708
RRO&C Refgs.*	1971	0	0	0	0	0	33,263	0	33,263
	1970	0	0	0	0	0	45,278	0	45,278
All Other Private	1971	1,302	39,811	3,115	3,193	52,211	15,640	169,507	284,779
	1970	1,280	36,275	2,026	2,468	53,203	15,443	175,631	286,326
Class II & S&T Cos.†	1971	8,500	804	4,096	6,482	498	1,533	963	22,876
	1970	9,744	709	4,222	6,964	534	1,457	969	24,599
GRAND TOTAL	1971	539,031	176,051	192,546	399,515	128,285	115,686	219,485	1,770,599
	1970	553,707	166,382	196,521	401,149	125,920	117,277	227,955	1,788,911

* Railroad owned and controlled refrigerator car lines.
† Class II railroads and switching and terminal companies.

TRANSIT

● *General Railway Signal Co.*—Has received contracts totaling more than $3 million to supply control systems for three new forms of ground transportation. GRS will design controls for (1) AIRTRANS, an LTV Aerospace, Vought Aeronautics Division system to be installed at Dallas-Ft. Worth Regional Airport; (2) a Rohr Corp. PRT (personal rapid transit) system to be installed at Dulles International Airport, Washington; and (3) a TACV system being designed by Vought for DOT evaluation.

● *Washington Metropolitan Area Transit Authority.*—For construction of WMATA's major repair shop about 1½ miles north of Union Station, the George Human Construction Co. of Bethesda, Md., has submitted an apparent low bid of $5,548,000, 31% below the authority's estimate. To date WMATA has opened 26 major bids for a low bid total of $333,235,740.

NEW FACILITIES

● *Burlington Northern.*—Ordered from General Railway Signal equipment to extend CTC on the Wishram-to-Vancouver line from Wishram to Stevenson, an addition of 52 miles. Switches and signals at the 11 locations will be controlled from a "Traffic Master" console at Portland.

● *Southern.*—Ordered equipment from General Railway Signal to extend a traffic control system 55 miles from Berwin, Ga., to Jersey, Tenn.

GROSS CAPITAL EXPENDITURES
(CLASS I RAILROADS)

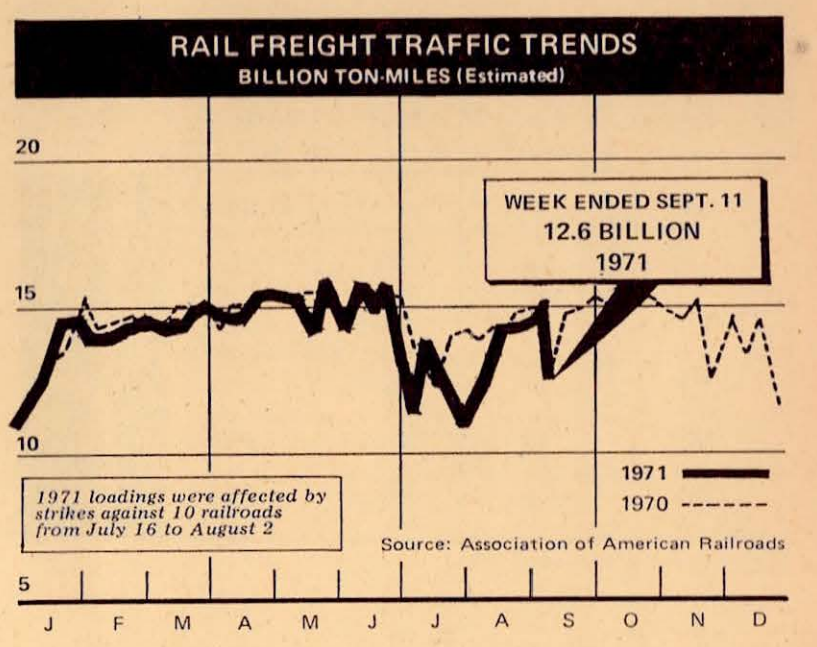
	Roads reporting	Road	Equipment	Total
		(aggregates in millions)		
1965	76	$327.1	$1,303.6	$1,630.7
1966	76	398.6	1,564.4	1,963.0
1967	76	374.1	1,148.4	1,522.5
1968	77	368.6	818.7	1,187.3
1969	75	419.5	1,088.9	1,508.4
1970	72	358.3	993.1	1,351.4

Source: Bureau of Economics, ICC.

OPERATING AVERAGES
CLASS I LINE-HAUL RAILROADS

Item	1970	1969	1968	1967
Total revenue ton miles—billions	762.5	767.9	744.5	719.4
Total revenue passenger miles—billions	10.8	12.2	13.1	15.2
FREIGHT SERVICE				
Net ton miles per mile of road per day	10,168	10,151	9,821	9,462
Car miles per freight car day	51.8	52.6	51.3	49.1
Freight car miles per train mile:				
Loaded	40.5	41.5	41.5	41.5
Empty	29.6	28.5	28.5	29.0
Total	70.1	70.0	70.0	70.5
Gross ton miles per train mile[1]	3,883	3,798	3,721	3,681
Net ton miles per train mile	1,820	1,804	1,768	1,740
Net ton miles per freight car day	1,345	1,356	1,294	1,212
Net ton miles per loaded car mile	44.9	43.5	42.6	41.9
Percent loaded of freight car miles	57.8	59.2	59.3	58.9
Train miles per train hour	20.1	20.1	20.4	20.3
Gross ton miles per train hour[1]	78,053	76,324	75,946	74,852
Percent unserviceable:				
Freight locomotives[2]	6.1	5.8	6.1	5.5
Freight cars on line[2]	5.2	4.9	4.8	4.6
PASSENGER SERVICE				
Revenue passenger miles:				
Per train mile	116.2	113.6	107.0	101.5
Per car mile	25.8	24.7	22.4	20.7
Passenger train miles per train hour	40.1	41.0	41.0	41.7
Percent unserviceable:				
Passenger locomotives[2]	9.4	9.2	8.3	7.9
Passenger train cars[2]	6.7	7.8	8.3	8.2

[1] Excludes locomotives and tenders.
[2] Average during year.
Source: Bureau of Economics, ICC.



FREIGHT REVENUES OF ICC-REGULATED CARRIERS, 1955-1970

Millions

Year	Class I and II line-haul railroads	Class I, II and III motor carriers of property	Oil pipelines	Water carriers[1]	Total
1955	$ 8,665.4	$ 5,535.2	$ 677.6	$315.3	$15,193.5
1956	9,088.6	5,828.9	737.4	327.9	15,982.8
1957	9,063.7	6,165.9	730.0	352.0	16,311.6
1958	8,193.0	6,131.2	720.7	319.4	15,364.3
1959	8,442.3	7,144.0	765.2	324.9	16,677.3
1960	8,151.7	7,213.9	770.4	328.3	16,464.3
1961	7,859.1	7,462.7	786.7	289.7	16,398.2
1962	8,114.7	8,131.1	810.6	286.2	17,342.6
1963	8,271.2	8,548.3	840.3	294.5	17,954.3
1964	8,574.8	9,154.8	865.1	290.3	18,885.0
1965	9,036.5	10,068.2	903.8	307.1	20,315.6
1966	9,487.4	10,861.8	941.1	333.0	21,623.3
1967	9,329.1	11,308.4	994.5	293.0	21,925.0
1968	9,942.5	12,700.0	1,023.0	295.2	23,960.7
1969	10,538.5	13,900.0	1,103.3	325.0	25,866.8
1970p	11,110.0	14,400.0	1,188.0	390.0	27,088.0

p Preliminary.
[1] Includes class A&B inland and coastal carriers and maritime carriers' domestic service.
Source: Bureau of Economics, ICC.

Viewpoint

How rails can cut shipper costs: A DOT view

Transportation Secretary John A. Volpe finally submitted DOT's long-awaited "Statement on National Transportation Policy" to Congress on Sept. 8. The 41 pages of single-spaced typescript that went to the Hill was generally regarded as weak and disappointing. Said Senator Vance Hartke (D.-Ind.), chairman of the Senate Surface Transportation Subcommittee: "I hope this does not represent the final effort of this Administration because, if it does, we are in worse shape than I had thought."But while the DOT statement produced more yawns than "yeses" in Washington, railroad men stopped yawning when they reached page 21. In a rather remarkable section under the subhead, "Intercity Freight," DOT had this to say:

"Analysis suggests that significant savings in both economic and social costs could be achieved by diverting certain kinds of traffic from truck to rail. Rail has an inherent cost advantage for moving large bulk shipments overland over long distances. Railroads enjoy very high capacity rights-of-way that are currently underutilized compared with congestion-prone highway systems. Rail does, in fact, carry a substantial proportion of intercity freight . . . and though its share of the total has been decreasing, there was a 31% increase in the absolute volume of freight carried by rail between 1960 and 1968.

"Railroads compete with trucking, with air in the shipment of high value commodities to a small extent, and with waterways in the shipment of low-value bulk commodities. However, rail is prevented from realizing and passing on the full benefits of its cost advantages by several factors including right-of-way taxes, capital investment and operation and maintenance subsidies (alone, or in combination) for its competitors, and the relatively greater degree of regulation of railroads.

"Partially as a result of these imbalances, motor carrier freight traffic has been growing much more rapidly than rail—5% per year for trucks versus 3% per year for rail over the last 10 years. Trucks have been matching and in some cases undercutting railroad freight rates over a broad spectrum of commodities while at the same time offering shippers—and, ultimately, consumers—far better service than they were receiving from the railroads. This has occurred despite the fact that trucking's cost of transporting virtually all commodities more than a short distance exceeds that of rail.

"Despite service advantages, a change in regulations which would allow rail rates to be set more as a function of cost than they have been historically would probably shift some truck traffic to rail, at an over-all savings. How much savings would accrue to consumers and taxpayers is, of course, impossible to estimate with any precision. However, highway construction and maintenance savings (to the taxpayers) have been estimated as high as $1.5 billion annually, while freight bill reductions are projected at $1 to $3 billion per year. It should also be noted that a modernized regulatory process would foster some shift in traffic in the opposite direction. Some rail service is clearly uneconomic and high-cost and should be abandoned in favor of the truck or waterway modes. Not only would all carrier modes benefit, but so would shippers and consumers who would enjoy better service at lower cost."

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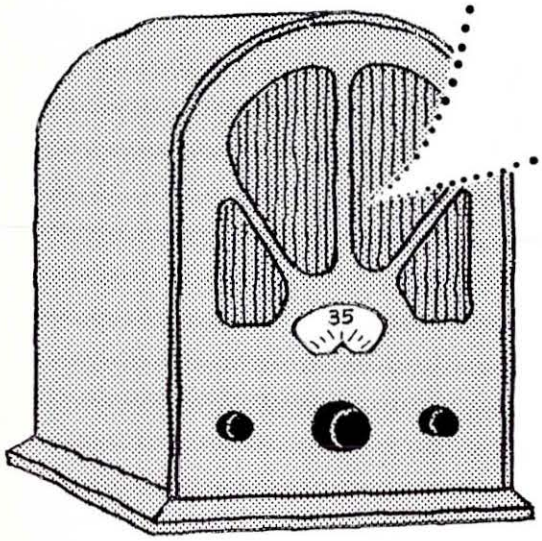

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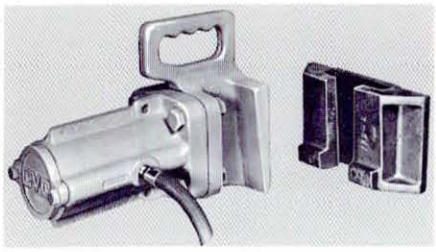
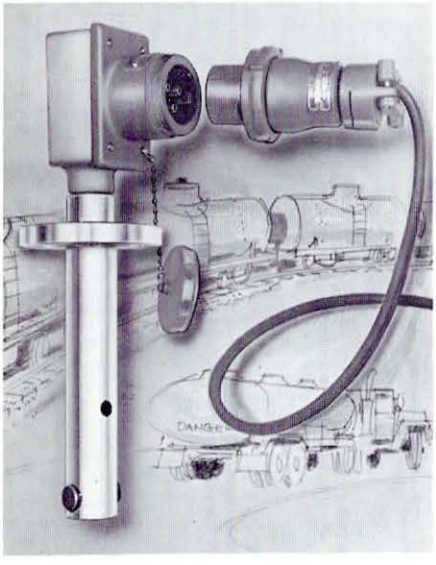


Air-powered vibrators (RA-1)

The one-man-operated metallic impact air-powered vibrators are said to cut unloading time by 30%. The VMRR model is used when covered hopper cars are equipped with female brackets. VMBB model is used on all other types of covered hopper cars and on portable installations on large bins. Both models feature a maintenance-free springless double-diameter piston which insures positive sure start with minimum air pressure. If air-cushioned vibrators are required, VMRR-AC or VMBB-AC models should be specified, depending on the brackets or lack of brackets on cars. *Cleveland Vibrator Co.*



Tank level control (RA-2)

The extended-length models and a new two-point model for fast filling with automatic slowdown for topping added to the Sensall line of ultrasonic sensing systems for control of tank-car and tank-truck filling and emptying are said to withstand the usual shock and vibration found in tank-car travel and loading. The sensors, hermetically sealed within their corrosion-resistant housing, have no moving parts and 100% solid-state components. From the sensing point the ultrasonic signal travels through a flexible PVC-armored conduit to the control unit. There the signal is converted from ultrasonic to electrical and amplified for operation of pumps, valves, instruments and controls. The system is completely automatic; no operator is needed for shut-off. Power consumption by the sensor is 10 milliwatts. For hazardous locations, models listed by the UL are available. The sensors are not affected by clinging droplets, foam or coating build-up. *National Sonics Corp.*

Cinching strap (RA-3)

The Touchtite cinching strap, made of highly flexible hook-and-pile closure material, and with a new, heavier duty cinching buckle attached, is said to have excellent holding power for bundling or lashing metal, plastic, wood, paper, cardboard, fibrous and combination items. The strap, when wrapped around the object or objects to be bundled, is pulled tight through the cinching buckle and held fast by thousands of interlocking hook-and-pile "burrs." Its possible adjustments, said to be extremely minute, number in the hundreds per inch of strap. Tests have shown it will withstand opening and closing 100,000 times before any evidence of wear. The 1-in. strap is available in 10 different lengths from 10 to 48 in. Standard color is bright yellow. *Technology Corp.*

Waterproof floor scales (RA-4)

A new series of three waterproof electronic low profile floor scales has been introduced. They were designed specifically for weighing operations which require equipment to be washed down or where, for other reasons, wet conditions exist. The scales have a shallow pattern which allows installation on the floor without a pit. Capacities of

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the three models range to 7,000 lb x 1 lb or 14,000 lb x 2 lb. The platform of the small model is 4 ft x 6 ft, and of the other two models, 5 ft. x 7 ft. *Fairbanks Morse Weighing Systems Division of Colt Industries.*

Discharge cone (RA-5)

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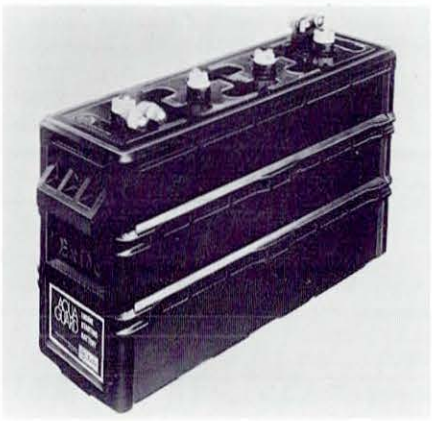

Starting battery (RA-6)

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Frequency voltmeter (RA-7)

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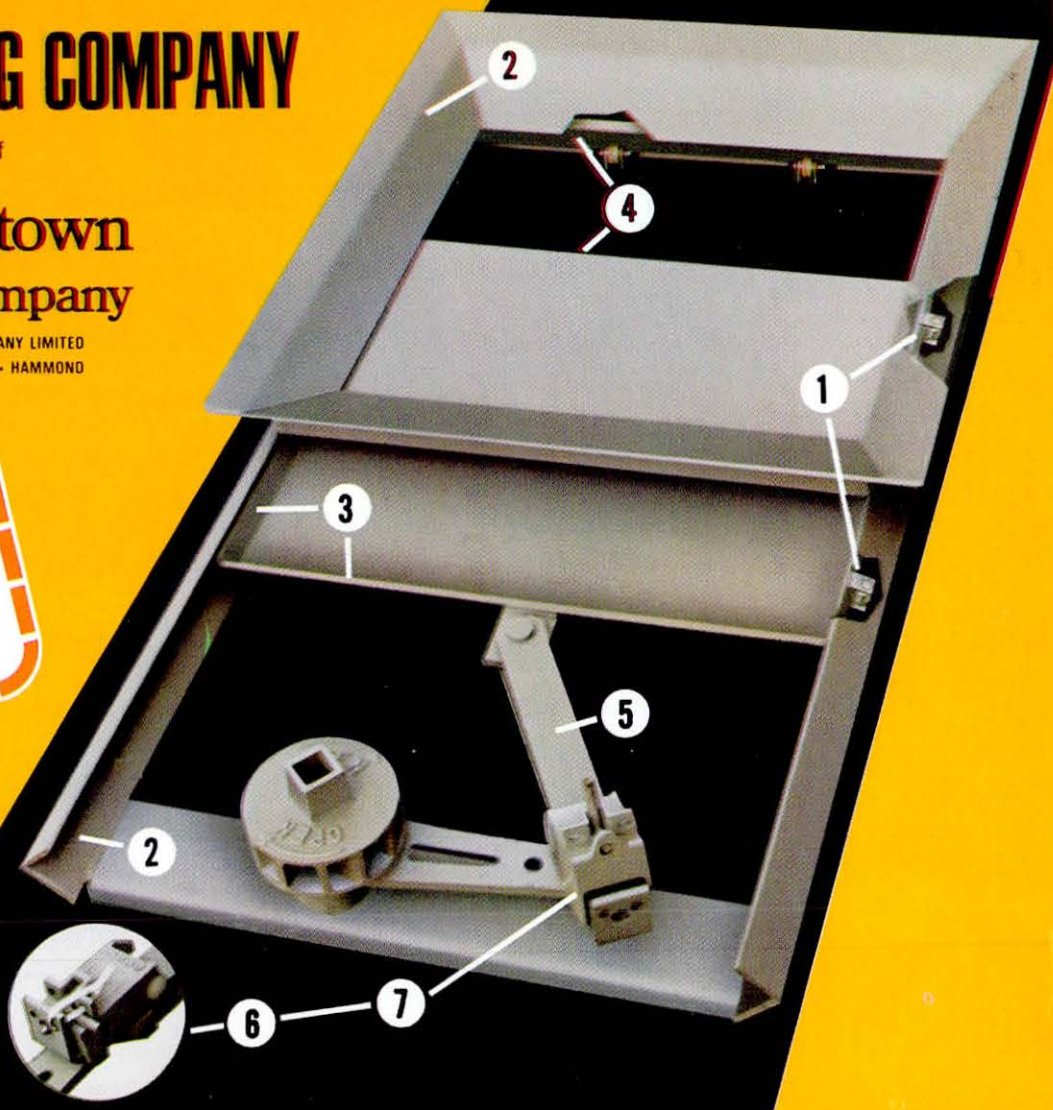

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